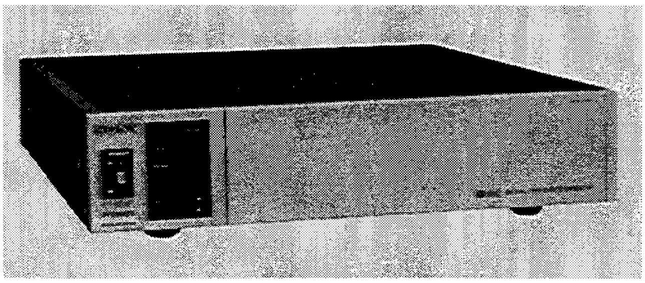
SONY®

DIGITAL TIME BASE CORRECTOR

BVT-800PS



OPERATION AND MAINTENANCE MANUAL
1st Edition (Revised 12)
Serial No. 10001 and Higher

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SECTION 1
OPERATION

The BVT-800PS is a digital time base corrector for use with a color-under system VTR equipped with a capstan servo system which can upgrade the playback signal to satisfy broadcasting standards.

1-1. FEATURES

A wide correction range of 29 H
A window of 29 H (p-p) permits a wide range of time base error to be corrected. Even if the error exceeds the correctable range, no horizontal movement nor sync fluctuation occurs.

Interchangeability between PAL and SECAM systems
The BVT-800PS can be used for both PAL and SECAM systems only by exchanging the built-in circuit board. PAL and SECAM indicator will show you which board is installed into the BVT-800PS.

Dynamic tracking* of wide range of playback speed
When a BVU-820 series U-matic videocassette recorder is connected by the multi-core cable, the playback of −1 to +3 times normal playback speed is possible without any guard band noise.

Small and lightweight
Thanks to the new ICs for the A/D and D/A conversion and the newly designed signal processor, the BVT-800PS can reduce the size and weight for handy use.

Digital dropout compensator
An advanced digital dropout compensator replaces each luminance dropout with the signal of the previous line and each chrominance dropout with the signal of two lines before. This signal replacement is performed digitally so that no signal degradation occurs.

Video processor
The video level, chroma level, black level, burst/chroma phase (PAL model only), subcarrier phase (PAL model only) and sync phase can be adjusted. The burst/chroma phase, system subcarrier phase and system sync phase can be adjusted without interfering each other.

* Dynamic tracking is a trademark of Sony Corporation.

Built-in sync generator
The BVT-800PS can operate with an external sync signal or with a sync signal from the built-in sync generator. The subcarrier stability is ±1 Hz at 20°C ±5°C for the PAL model and ±100 Hz at 0°C to 40°C for the SECAM model.

Y/C delay control
The Y/C delay can be controlled up to ±150 nsec.

DG compensation
Differential gain (DG) up to 20% can be compensated to zero. (PAL model only)

8 bits, Y: 10.9 MHz/C: 5.4 MHz sampling
The playback signal is converted to a digital signal by sampling with 8 bits Y: 10.9 MHz/C: 5.4 MHz, so no degradation of the picture of a duplicating tape occurs.

High speed synchronized playback
With a BVU-800 series or a BVU-820 series VTR, a color picture up to 5 times normal playback speed in forward and reverse direction can be synchronized with the reference signal. With a monochrome picture, synchronized playback from −40 to +40 times normal playback speed is possible.

Selection of V-blanking
The H lines from the seventh to the twenty seconds can be set to on and off independently with the switches on the built-in circuit board. In this way the V-blanking width can be selected.

Remote control
With the BK-2007 remote control unit (optional), the following level and phase adjustments can be remotely controlled.

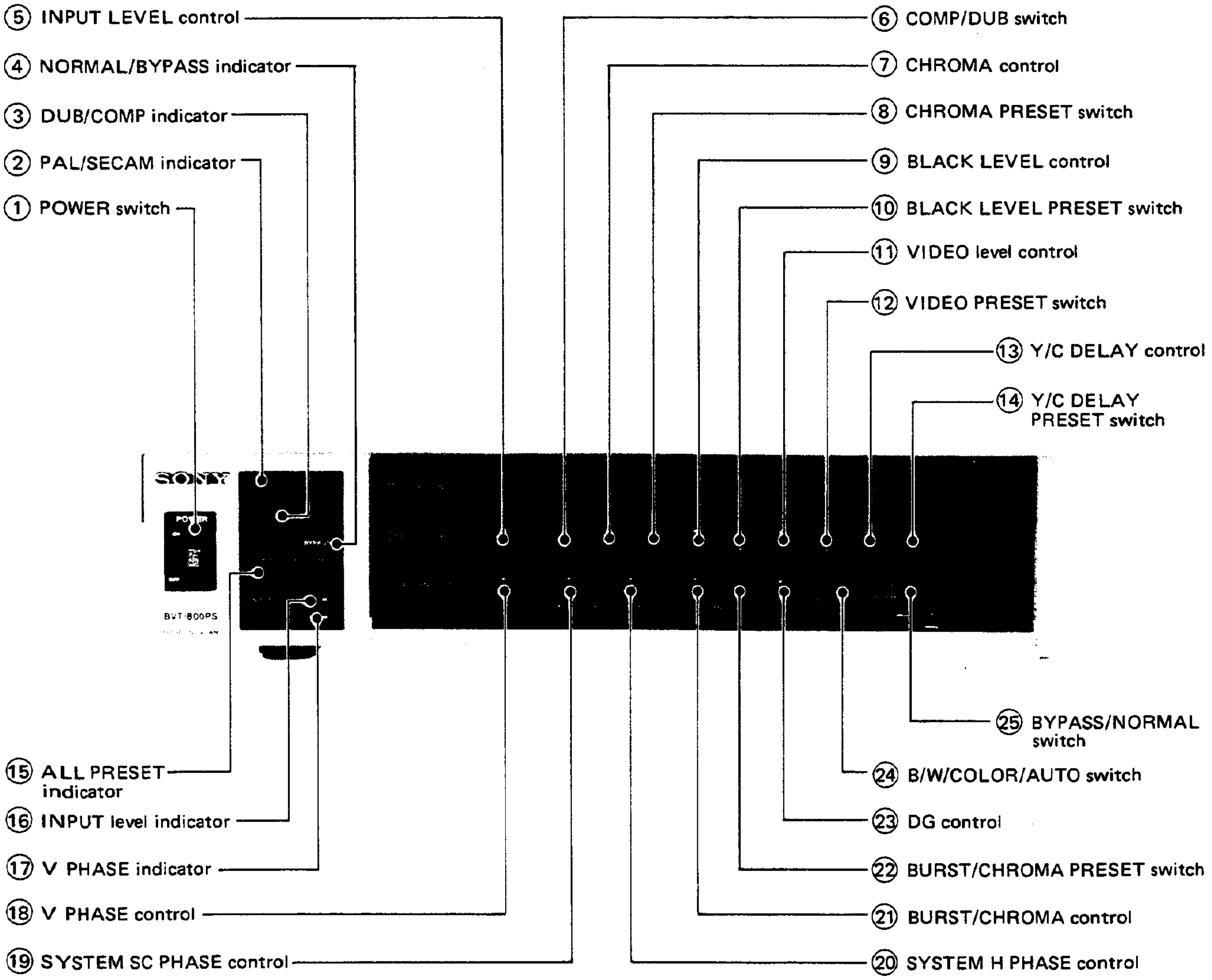
BVT-800PS(P) PAL model: Chroma level, video level, black level, system sc phase, system sync phase, burst/chroma phase.

BVT-800PS(S) SECAM model: Chroma level, video level, black level, system sync phase.

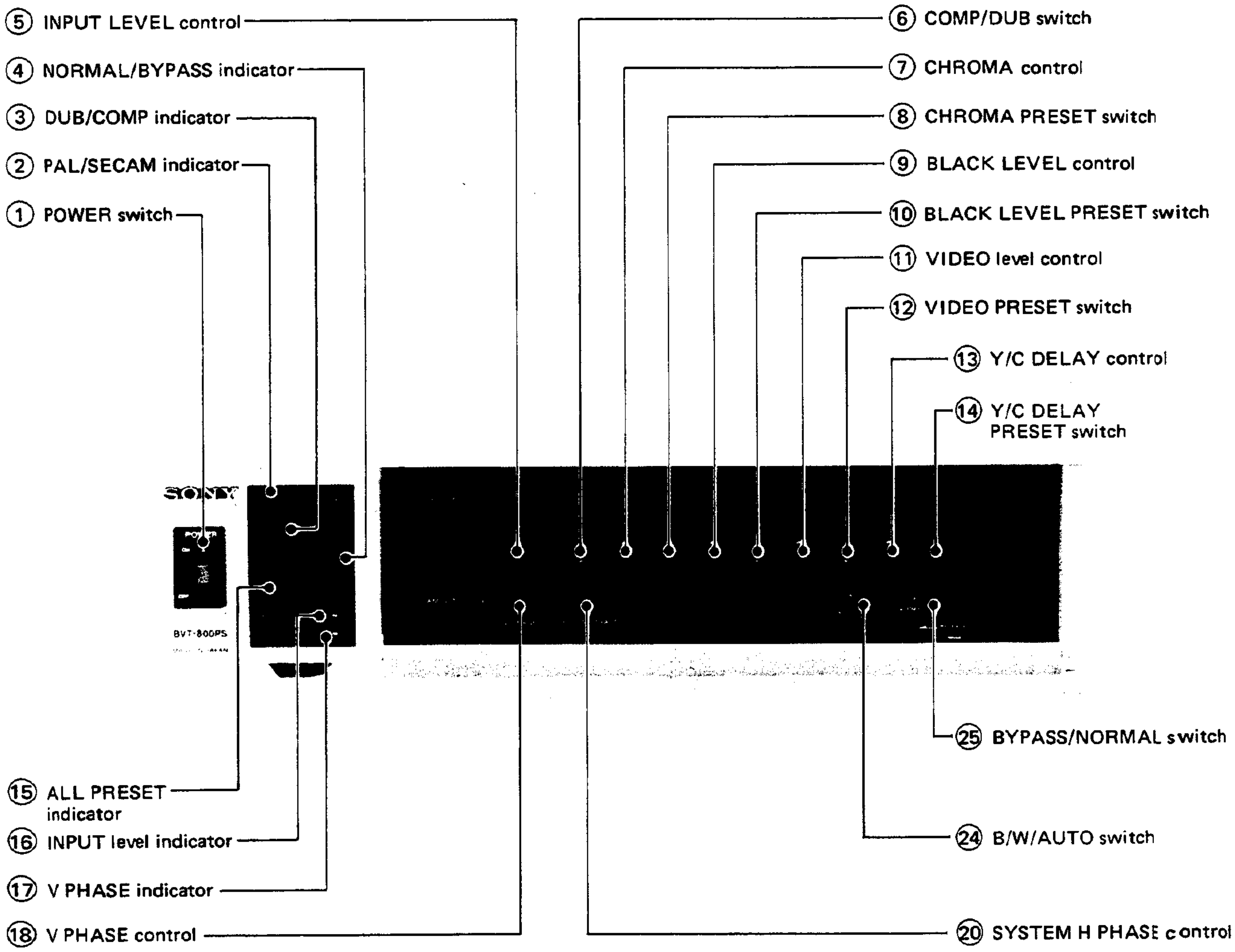
1-2. LOCATION AND FUNCTION OF PARTS AND CONTROLS

1-2-1. Control Panel

BVT-800PS(P) PAL model


⑤ INPUT LEVEL control
④ NORMAL/BYPASS indicator
③ DUB/COMP indicator
② PAL/SECAM indicator
① POWER switch
⑥ COMP/DUB switch
⑦ CHROMA control
⑧ CHROMA PRESET switch
⑨ BLACK LEVEL control
⑩ BLACK LEVEL PRESET switch
⑪ VIDEO level control
⑫ VIDEO PRESET switch
⑬ Y/C DELAY control
⑭ Y/C DELAY PRESET switch
SONY
POWER
BVT-800PS
⑮ ALL PRESET indicator
⑯ INPUT level indicator
⑰ V PHASE indicator
⑱ V PHASE control
⑲ SYSTEM SC PHASE control
㉕ BYPASS/NORMAL switch
㉔ B/W/COLOR/AUTO switch
㉓ DG control
㉒ BURST/CHROMA PRESET switch
㉑ BURST/CHROMA control
⑳ SYSTEM H PHASE control

BVT-800PS(S) SECAM model


⑤ INPUT LEVEL control
④ NORMAL/BYPASS indicator
③ DUB/COMP indicator
② PAL/SECAM indicator
① POWER switch
⑥ COMP/DUB switch
⑦ CHROMA control
⑧ CHROMA PRESET switch
⑨ BLACK LEVEL control
⑩ BLACK LEVEL PRESET switch
⑪ VIDEO level control
⑫ VIDEO PRESET switch
⑬ Y/C DELAY control
⑭ Y/C DELAY PRESET switch
SONY
POWER
BVT-800PS
⑮ ALL PRESET indicator
⑯ INPUT level indicator
⑰ V PHASE indicator
⑱ V PHASE control
㉕ BYPASS/NORMAL switch
㉔ B/W/AUTO switch
⑳ SYSTEM H PHASE control

① **POWER switch**

Press the ON side to turn the power on.

② **PAL/SECAM indicator**

When the PAL sync generator board is installed, the PAL indicator will light and when the SECAM sync generator board is installed, the SECAM indicator will light.

③ **DUB/COMP indicator**

When the COMP-DUB switch is set to DUB or the BVU-800 series or the BVU-820 series VTR is connected to the FROM VTR connector with a multi-cable, the DUB indicator will light. However when the BVU-820P is in the Dynamic tracking playback or the simultaneous playback mode, the COMP indicator will light. In other cases, the COMP indicator will light.

④ **NORMAL/BYPASS indicator**

NORMAL or BYPASS will light depending on the setting of the BYPASS/NORMAL switch.

⑤ **INPUT LEVEL control**

The video input level can be adjusted within a range of ±3 dB. The correct level is indicated in green on the INPUT level indicator.

⑥ **COMP/DUB switch**

When a BVU-200P or a BVU-200S is connected to the DUB IN (U-matic H) connector with a dubbing cable, set this switch to DUB and the DUB indicator will light. When the other VTR is connected to the OFF TAPE VIDEO connector, set this switch to COMP and the COMP indicator will light.

- When a BVU-800 series or a BVU-820 series VTR is connected to the FROM VTR connector with a multi-cable, the BVT-800PS is automatically set to the dub mode independent of the setting of this switch and the DUB indicator will light. However when the BVU-820P is in the Dynamic tracking playback or the simultaneous playback mode, the BVT-800PS is forcedly set to the COMP mode and the COMP indicator will light.
- In the dub mode, the signal skips the Y/C separation filter so that the bandwidth of the luminance signal will be wide.

⑦ **CHROMA control**

The chroma level of the output signal can be adjusted within a range of ±3 dB when the CHROMA PRESET switch is set to the upper (manual) position. The adjustable range of the 100% color bars is 120%.

- When the SECAM signal is processed, care should be taken to avoid the over frequency modulation.

⑧ **CHROMA PRESET switch**

Usually set to PRESET. In this position, the setting of the CHROMA control doesn't affect on the output signal. With this switch the upper position, the chroma level can be adjusted with the CHROMA control.

⑨ **BLACK LEVEL control**

The black level of the output signal can be adjusted from 0 to 0.11 V when the BLACK LEVEL PRESET switch is set to the upper (manual) position.

⑩ **BLACK LEVEL PRESET switch**

Usually set to PRESET. In this position, the setting of the BLACK LEVEL control doesn't affect on the output signal. With this switch the upper (manual) position, the black level can be adjusted with the BLACK LEVEL control.

⑪ **VIDEO level control**

When the VIDEO PRESET switch is set to the upper (manual) position, the video level is adjusted as follows:

BVT-800PS(P)

The video (luminance and chrominance) output level can be adjusted within the range of ±3 dB. This control does not adjust the sync signal level.

BVT-800PS(S)

Only the luminance level of the output signal can be adjusted within the range of ±3 dB, to avoid the over frequency modulation of the chrominance signal. This control does not adjust the sync and the chrominance signal.

⑫ **VIDEO PRESET switch**

Usually set to PRESET. In this position, the setting of the VIDEO level control doesn't affect on the output signal. With this switch the upper (manual) position, the video level can be adjusted with the VIDEO level control.

⑬ **Y/C DELAY control**

When the Y/C DELAY PRESET switch is set to the upper (manual) position, the Y/C delay can be adjusted to 0 if the Y/C delay of the input signal is within the range of ±150 nsec.

⑭ **Y/C DELAY PRESET switch**

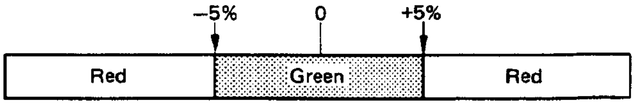
Usually set to PRESET. In this position, the adjusted value will be 0. With this switch the upper position, the Y/C delay can be adjusted with the Y/C DELAY control.

⑮ **ALL PRESET indicator**

When the CHROMA PRESET, BLACK LEVEL PRESET, Y/C DELAY PRESET, VIDEO PRESET and BURST/CHROMA PRESET (BVT-800PS(P) only) switches are set to PRESET, this indicator will light.

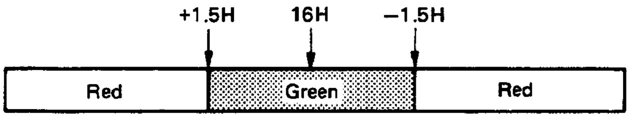
⑯ **INPUT level indicator**

The proper input level is indicated in green on this indicator by observing the level of the sync signal.



⑰ V PHASE indicator

The BVT-800PS delays the output signal by 16 H to the input signal so that the playback signal of the VTR is advanced by 16 H to the reference signal. If the delay of the playback signal is in the range of 16 H ± 1.5 H, the green part of this indicator will light. Adjust the V PHASE control so that the green part will light.



⑱ V PHASE control

The playback signal can be adjusted so that it advances by 16 H to the reference signal. The proper level is indicated in green on the V PHASE indicator.

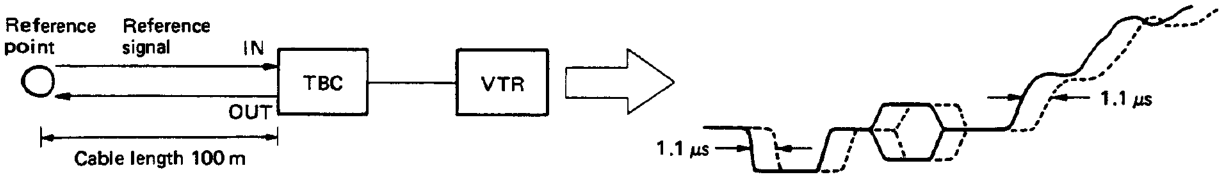
⑲ SYSTEM SC PHASE control (for the BVT-800PS(P) only)

The subcarrier phase of the output signal can be adjusted to that of the reference signal. The adjustable range is 360°. This control does not effect on the video and sync phase.

⑳ SYSTEM H PHASE control

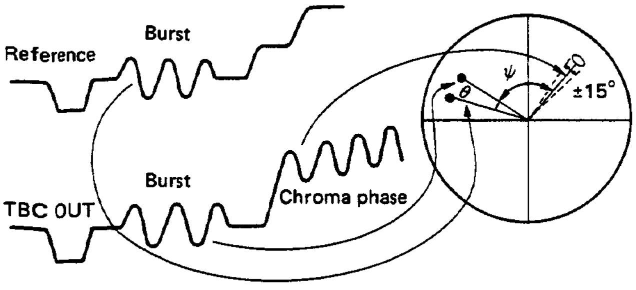
The delay between the playback signal and the reference signal caused by the cable length can be compensated for by adjusting the system H phase with this control. The adjustable range is from −1 µsec. to +3 µsec.

In the following illustration, the signal delay between the reference point and the input on the TBC is 550 nsec. The TBC OUT signal will be delayed an additional 550 nsec to return to the reference point so that the phase must be advanced by 1.1 µsec.



㉑ BURST/CHROMA control (for the BVT-800PS(P) only)

The burst/chroma phase (ψ) of the output signal can be adjusted within a range of ±15° when the BURST/CHROMA PRESET switch is set to the upper (manual) position. This control does not adjust the θ.



㉒ BURST/CHROMA PRESET switch (for the BVT-800PS(P) only)

Usually set to PRESET. In this position, the setting of the BURST/CHROMA control doesn't affect on the output signal. With this switch the upper (manual) position, the burst/chroma phase can be adjusted with the BURST/CHROMA control.

㉓ DG (differential gain) control (for the BVT-800PS(P) only)

The DG of the U-matic VTR can be adjusted within a range of ±20%.

㉔ B/W/COLOR/AUTO switch (PAL model)
B/W/AUTO switch (SECAM model)

Set this switch to the position which corresponds to the signal connected to the OFF TAPE VIDEO input connector.

B/W: The input signal is treated as a monochrome signal.

COLOR: The input signal is treated as a color signal.

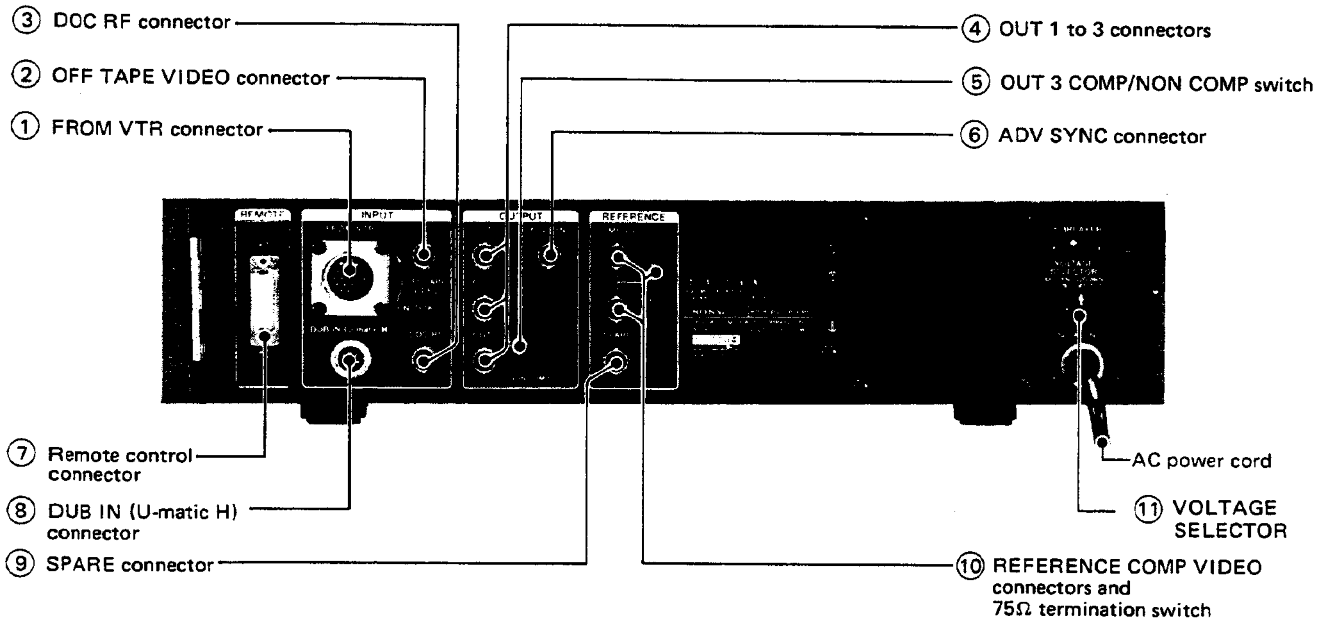
AUTO: The input signal is identified as a monochrome signal or a color signal by its burst signal level. When the burst signal level is below the reference level (300 mV) by 12 ± 3 dB, the signal is identified as a monochrome signal.

㉕ BYPASS/NORMAL switch

BYPASS: The input signal bypasses the circuit and will be fed out.

NORMAL: Normally set to this position. The time base error of the input signal is corrected before the signal is fed out.

1-2-2. Connector Panel


③ DOC RF connector
② OFF TAPE VIDEO connector
① FROM VTR connector
④ OUT 1 to 3 connectors
⑤ OUT 3 COMP/NON COMP switch
⑥ ADV SYNC connector
REMOTE
INPUT
OUTPUT
REFERENCE
⑦ Remote control connector
⑧ DUB IN (U-matic H) connector
⑨ SPARE connector
AC power cord
⑪ VOLTAGE SELECTOR
⑩ REFERENCE COMP VIDEO connectors and 75Ω termination switch

① **FROM VTR connector** (18 pin) (for the BVU-800 series and the BVU-820 series VTR)
Connect to the TBC connector on the BVU-800 series or the BVU-820 series VTR with the supplied multi-core cable. This connection cuts the input to the OFF TAPE VIDEO connector ②.

② **OFF TAPE VIDEO connector** (BNC type)
Connect to the video output connector on the VTR.

③ **DOC RF connector** (BNC type)
Connect to the RF (OFF TAPE) connector on the VTR.

④ **OUT 1 to 3 connectors** (BNC type)
These connectors output the video signals. Connect to the video input connector on the equipment to be used. The output of the OUT 3 connector can be set to composite video or non-composite video by the COMP/NON COMP switch ⑤.

⑤ **OUT 3 COMP/NON COMP switch**
The output signal of the OUT 3 connector can be changed with this switch.
COMP: A composite video signal (VBS, the same as the OUT 1 and 2) is output.
NON COMP: A non-composite video signal (VB) is output.

⑥ **ADV SYNC (advanced sync) connector** (BNC type)
The sync signal which has been advanced by 16 H against the reference signal is output here. Connect to the sync input on the VTR.

⑦ **Remote control connector** (15 pin)
Connect the BK-2007 remote control unit to control the BVT-800PS remotely.

⑧ **DUB IN (U-matic H) connector** (7 pin)
Connect to the DUB OUT connector on the BVU-200P or the BVU-200S and the wide bandwidth can be obtained. When this connector is used, set the COMP/DUB switch on the front panel to DUB.

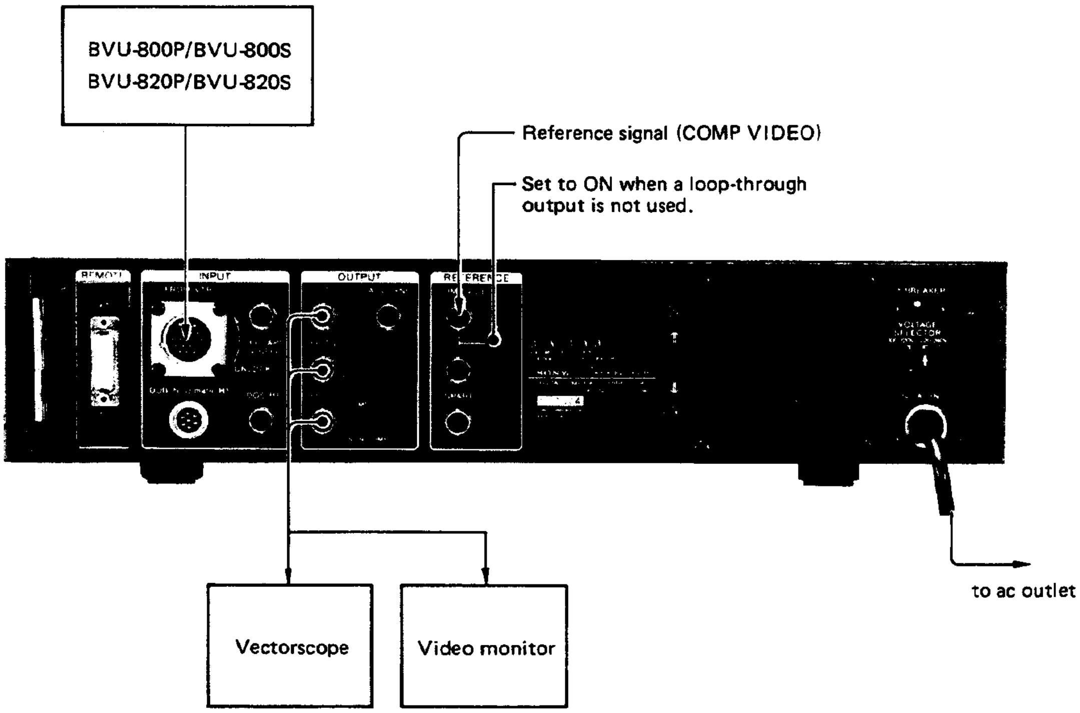
⑨ **SPARE connector** (BNC type)
No connections here.

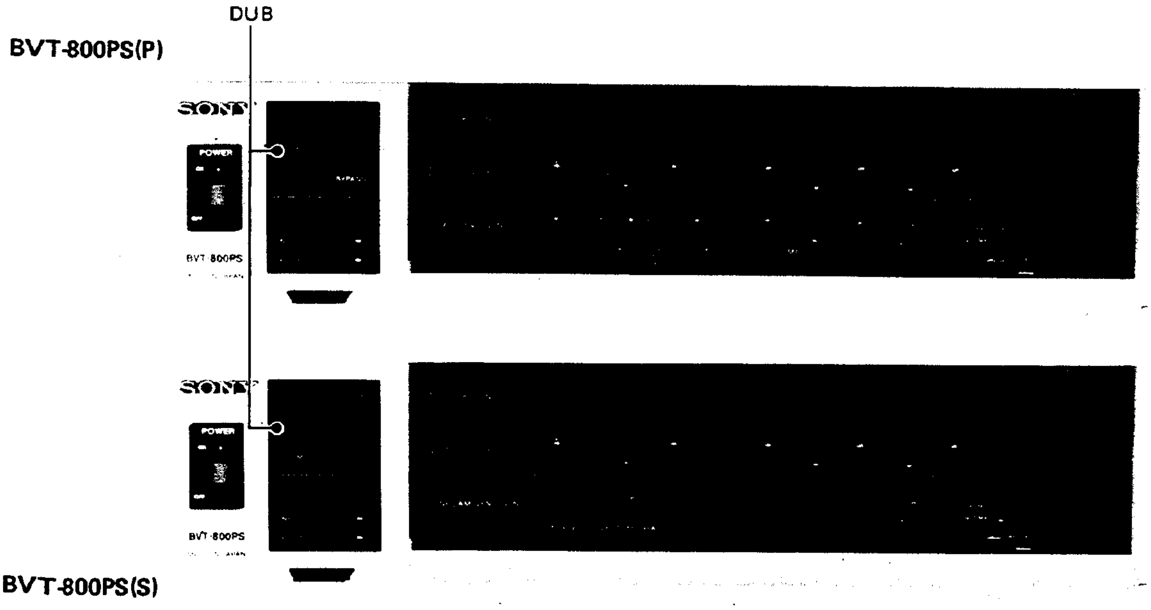
⑩ **REFERENCE COMP VIDEO input connectors** (BNC type) **and 75-ohm termination switch**
Connect a reference signal (BS or VBS) here. These two connectors are in "loop-through" configuration so that the input signal to one connector is fed directly to the other. When a loop-through output is used, be sure to set the 75-ohm termination switch to OFF. If such an output is not used, set the switch to ON.

⑪ **VOLTAGE SELECTOR**
Set to your local power voltage. If the selector must be reset, remove the cover, press the voltage selector switch, and replace the cover.

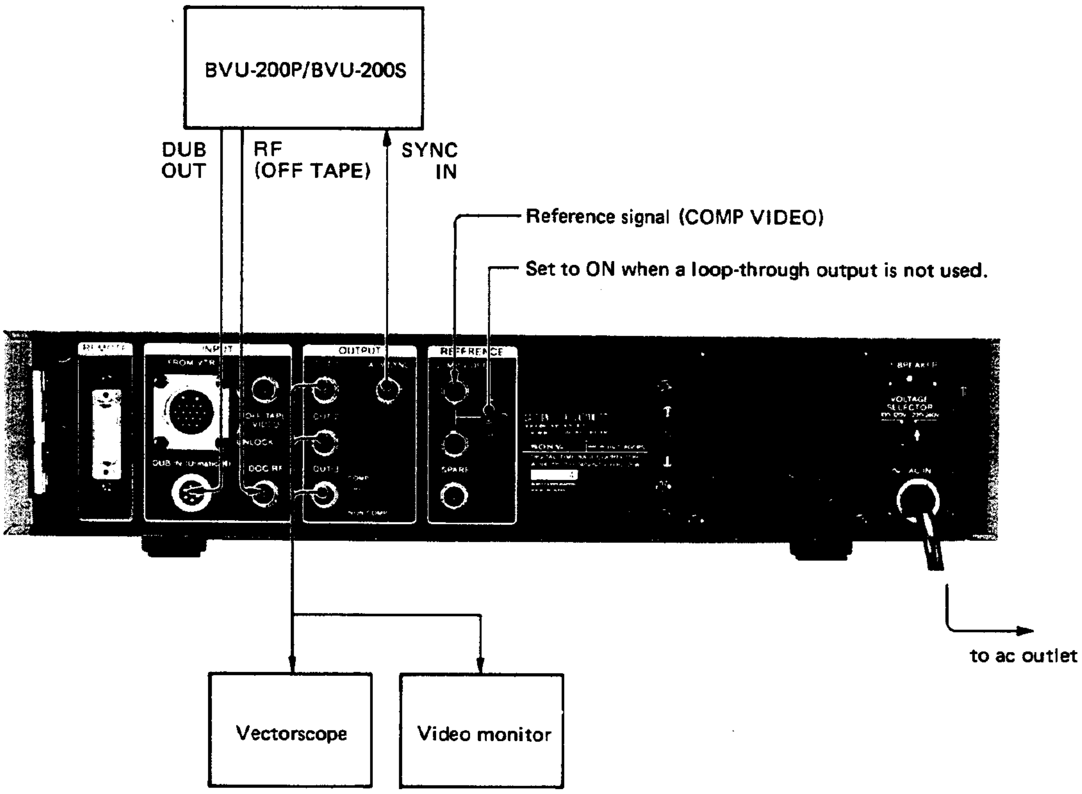
1-3. CONNECTIONS AND OPERATION

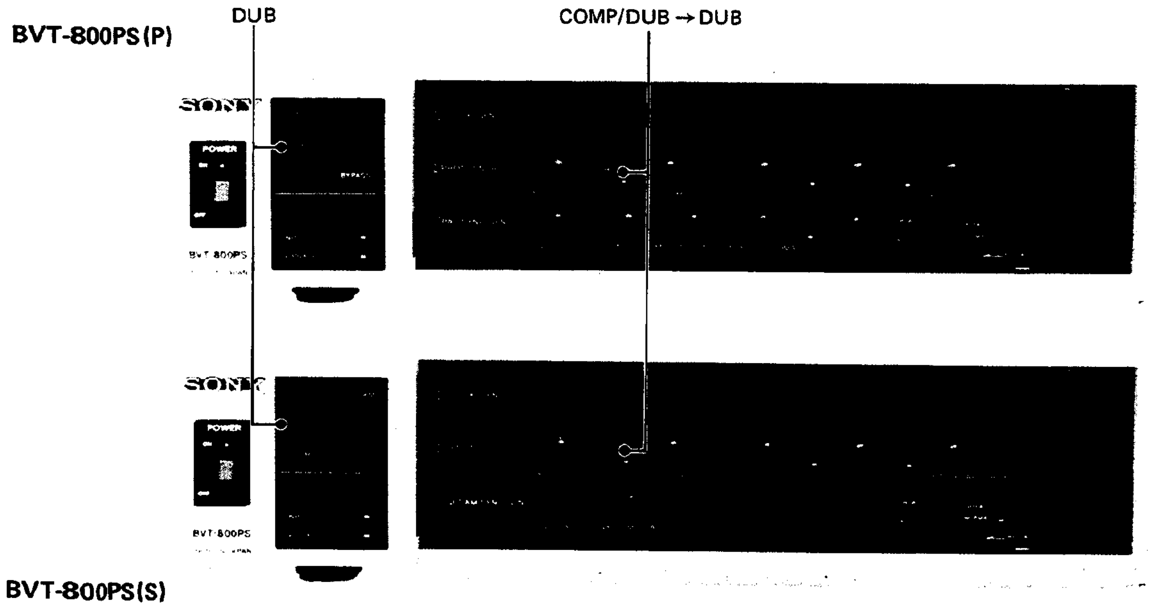
1-3-1. Connection with the BVU-800P/BVU-800S and BVU-820P/BVU-820S


BVU-800P/BVU-800S
BVU-820P/BVU-820S
Reference signal (COMP VIDEO)
Set to ON when a loop-through output is not used.
REMOTE
INPUT
OUTPUT
REFERENCE
to ac outlet
Vectorscope
Video monitor

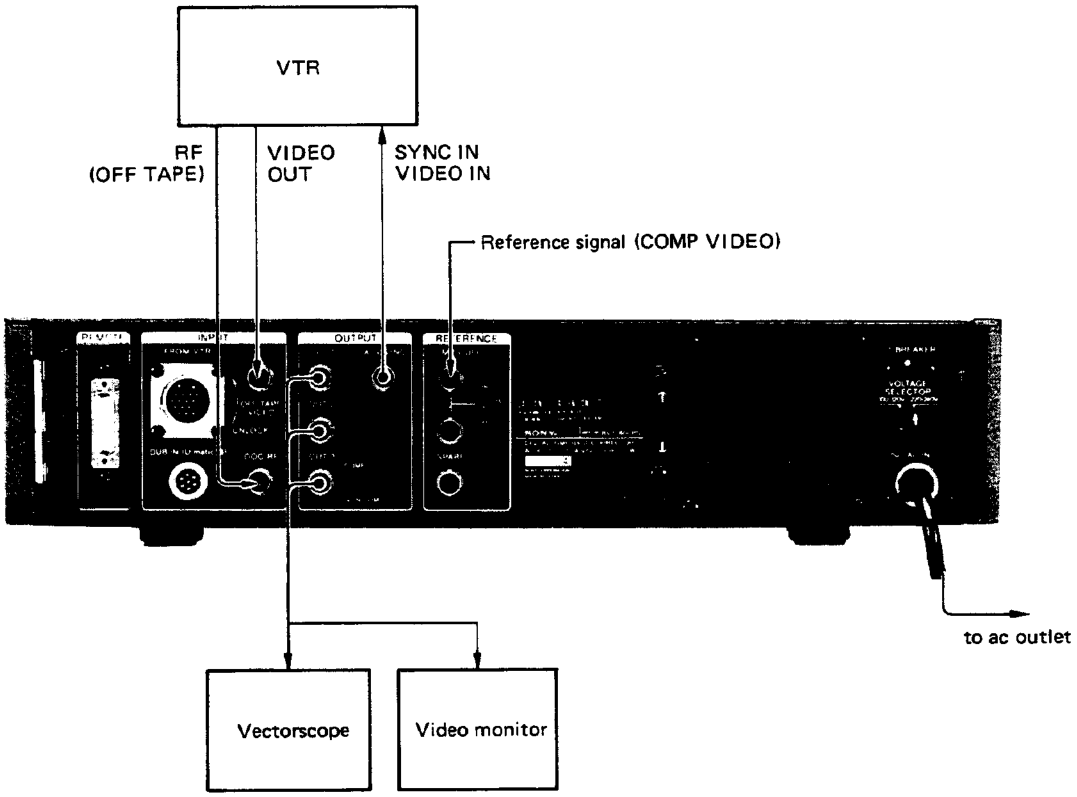

DUB
BVT-800PS(P)
SONY
POWER
BVT-800PS
SONY
POWER
BVT-800PS
BVT-800PS(S)

1-3-2. Connection with the BVU-200P/BVU-200S

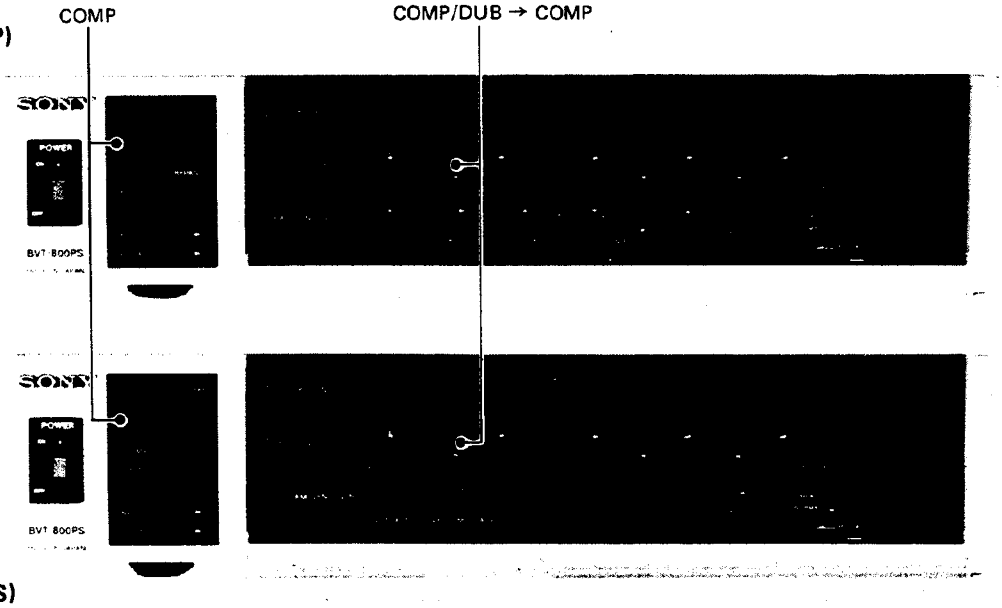

BVU-200P/BVU-200S
DUB OUT
RF (OFF TAPE)
SYNC IN
Reference signal (COMP VIDEO)
Set to ON when a loop-through output is not used.
to ac outlet
Vectorscope
Video monitor


BVT-800PS(P)
DUB
COMP/DUB → DUB
BVT-800PS(S)

1-3-3. Connection with a VTR other than BVU-series VTR which is equipped with a capstan servo system


VTR
RF (OFF TAPE)
VIDEO OUT
SYNC IN VIDEO IN
Reference signal (COMP VIDEO)
to ac outlet
Vectorscope
Video monitor

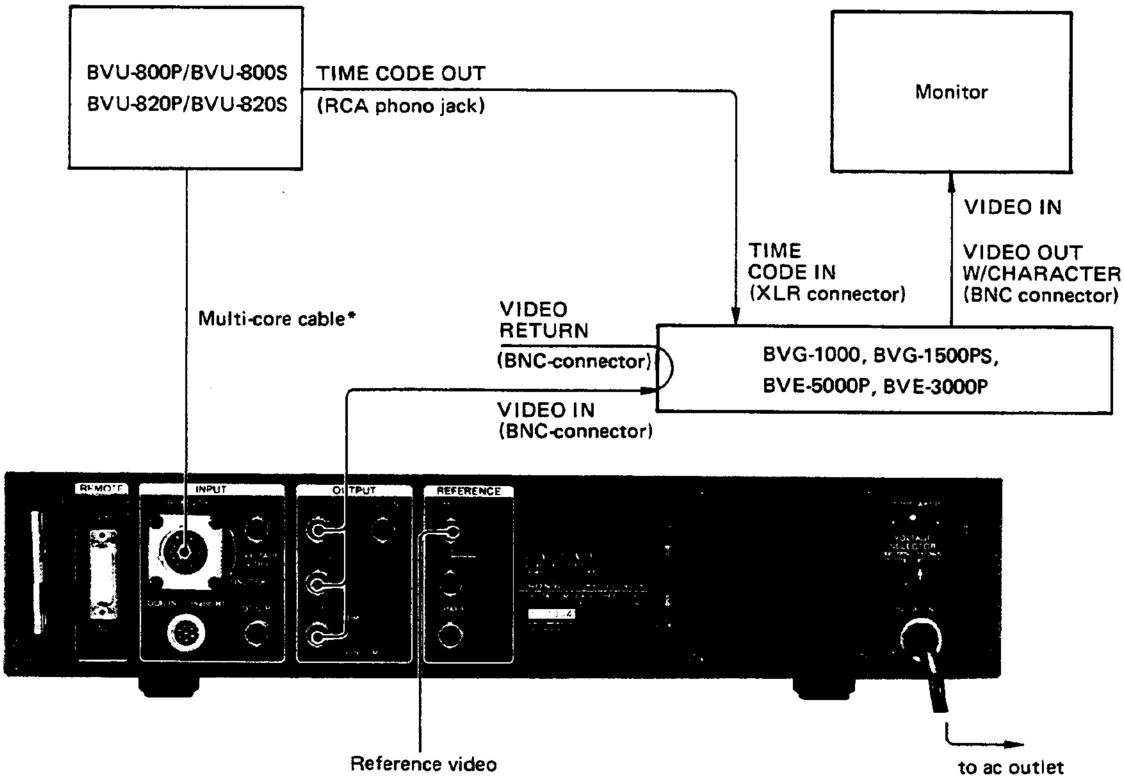
BVT-800PS(P)


COMP
COMP/DUB → COMP

BVT-800PS(S)

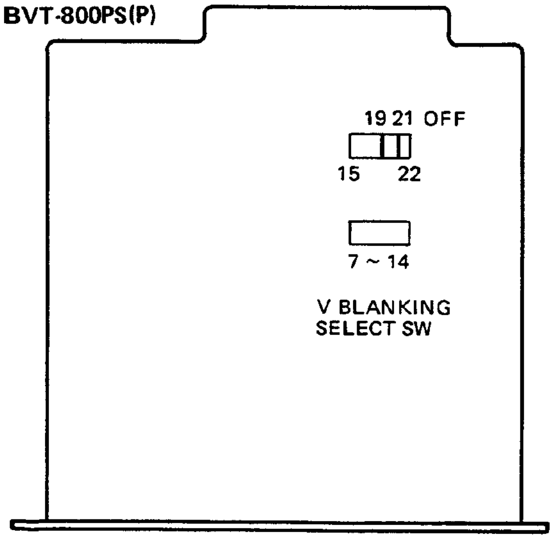
1-3-4. Connection to use the VITC (Vertical Interval Time Code)

Connect one of the BVU-800P, BVU-800S, BVU-820P or BVU-820S and one of the BVG-1500PS, BVG-1000, BVE-5000P or BVE-3000P.

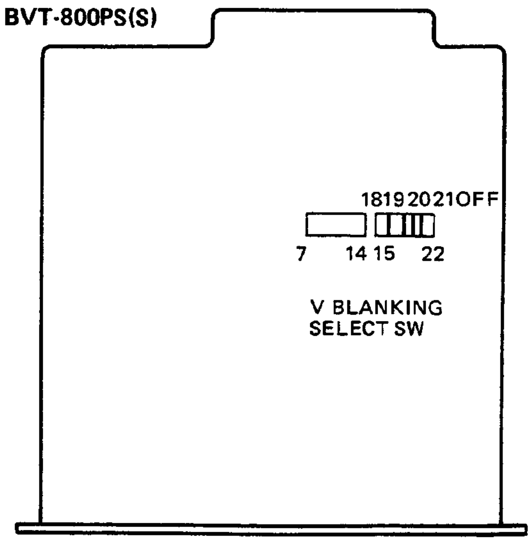

BVU-800P/BVU-800S
BVU-820P/BVU-820S
TIME CODE OUT
(RCA phono jack)
Monitor
VIDEO IN
TIME
CODE IN
(XLR connector)
VIDEO OUT
W/CHARACTER
(BNC connector)
Multi-core cable*
VIDEO
RETURN
(BNC-connector)
BVG-1000, BVG-1500PS,
BVE-5000P, BVE-3000P
VIDEO IN
(BNC-connector)
REMOTE
INPUT
OUTPUT
REFERENCE
Reference video
to ac outlet

* When the BVU-200 series VTR is used, refer to 1-3-2.

When the VITC is used, be sure to set the V blanking select switches for 19 and 21 lines to OFF on the PAL model, or for 18, 19, 20 and 21 lines to OFF on the SECAM model.


BVT-800PS(P)
19 21 OFF
15 22
7 ~ 14
V BLANKING
SELECT SW

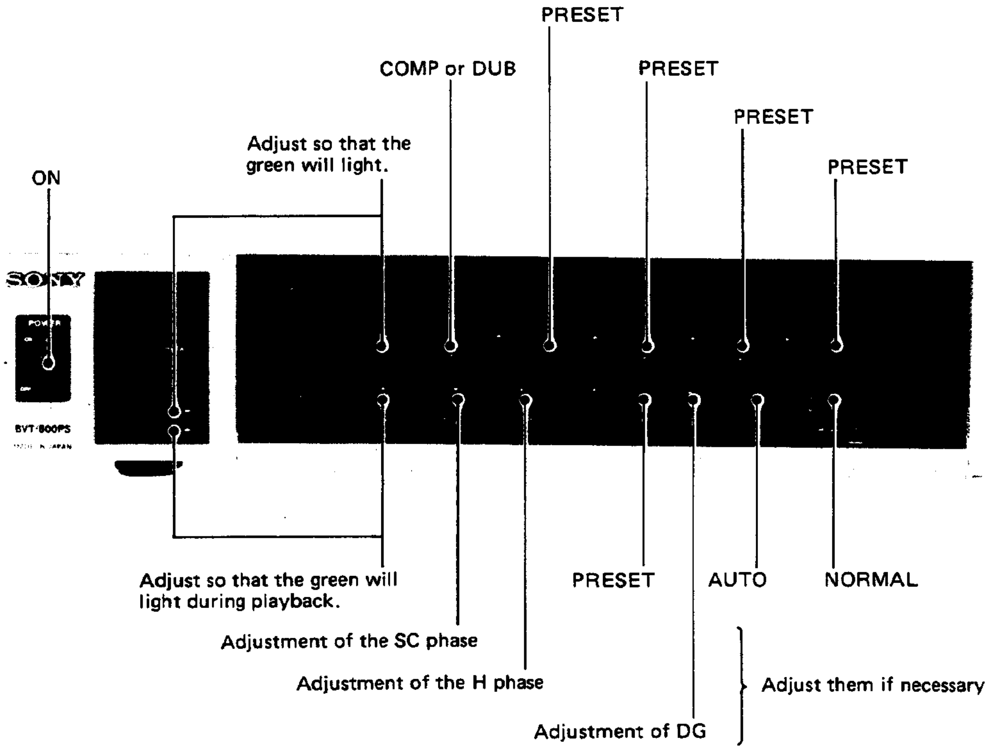
PAL sync generator board


BVT-800PS(S)
18 19 20 21 OFF
7 14 15 22
V BLANKING
SELECT SW

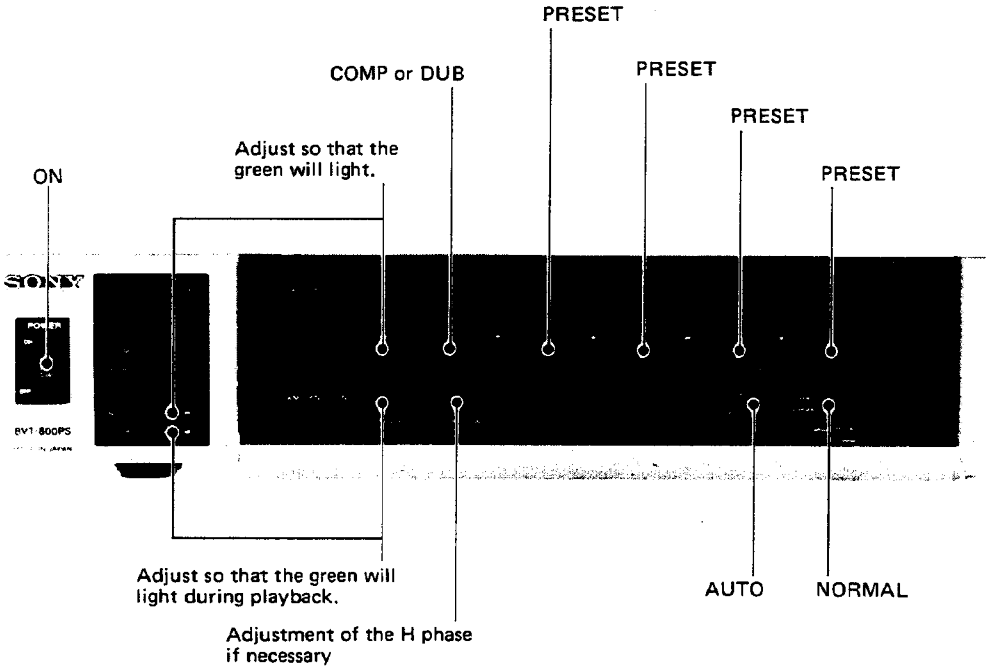
SECAM sync generator board

1-3-5. Standard Setting

BVT-800PS(P) PAL model


PRESET
COMP or DUB
PRESET
PRESET
Adjust so that the green will light.
PRESET
ON
SONY
POWER
BVT-800PS
Adjust so that the green will light during playback.
PRESET
AUTO
NORMAL
Adjustment of the SC phase
Adjustment of the H phase
Adjust them if necessary
Adjustment of DG

BVT-800PS(S) SECAM model


PRESET
COMP or DUB
PRESET
PRESET
Adjust so that the green will light.
ON
PRESET
BVT-800PS
Adjust so that the green will light during playback.
AUTO
NORMAL
Adjustment of the H phase if necessary

1-4. SPECIFICATIONS

General

Power requirement	100 - 120 V (90 - 132 V)/220 - 240 V (198 - 264 V) ac selectable 50/60 Hz (48 - 62 Hz)
Power consumption	100 W
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	−10°C to +60°C (14°F to 140°F)
Humidity	10 - 90% (non condensing)
Dimensions	424 x 88 x 515 mm (w/h/d) (16 3/4 x 3 1/2 x 20 3/8 inches)
Weight	13 kg (28 lb 10 oz)

Supplied accessories

Extension board EB-9A x1
Rack mount kit x1
  (Handle x2, Screw B4x12 x4, Screw K4x10 x4)
Multi-core cable x1
Operation and maintenance manual x1

Design and specifications subject to change without notice.

		BVT-800PS (P) PAL	BVT-800PS(S) SECAM
Video	Bandwidth COMP IN	Y: 2.5 MHz ±0.4 dB, 3.25 MHz −3 dB C: ±0.7 MHz −3 dB	Y: 2.5 MHz ±0.4 dB, 3.25 MHz −3 dB C: ±0.5 MHz −3 dB
	DUB IN	Y: 3.5 MHz ±0.4 dB 4.3 MHz −3 dB C: ±0.75 MHz −3 dB	Y: 3.5 MHz ±0.4 dB 4.3 MHz −3 dB C: ±0.5 MHz −3 dB
	Signal-to-noise ratio	55 dB	55 dB
	DG	2%	——
	DP	2°	——
	K factor (2T pulse) COMP IN	4%	4%
	DUB IN	2%	2%
	Chrominance/luminance delay	10 nsec	10 nsec
	Correction range	29 H(p-p)	29 H(p-p)
	Residual error	Color: ±2.5 nsec Monochrome: ±15 nsec	±15 nsec
Input signal	Off tape video	Composite 1.0 V(p-p) ±3 dB (adjustable), 75 ohms	
	DUB IN	Luminance: 0.5 V(p-p) ±3 dB (adjustable), 75 ohms Chrominance: 0.5 V(p-p), 75 ohms	
	DOC RF signal	0.5 V ±6 dB, 75 ohms	
	Reference comp video	1.0 V(p-p) ±3 dB, 75 ohms ON/OFF	
Output signal	Advance sync	2.2 V ±0.3 V, 75 ohms	
	Video output	1: 1.0 V(p-p) 2: 1.0 V(p-p) 3: 1.0 V(p-p) /0.7 V(p-p) (non-composite video)	
Output controls	Video level	±3 dB	±3 dB (luminance only)
	Chroma level	±3 dB	±3 dB
	Black level	0 – 0.11 V	0 – 0.11 V
	Burst/chroma phase	±15°	——
	DG compensator	±20%	——
	System sync phase	−1 to +3 μsec	−1 to +3 μsec
	System sc phase	more than ±180°	——
	Y/C delay	±150 nsec	±150 nsec

CHAPITRE 1
FONCTIONNEMENT

Le BVT-800PS est un correcteur de base de temps numérique destiné à travailler avec un magnétoscope à système sous-couleur (magnétoscope à sous-porteuses couleurs transposées vers les fréquences basses) équipé d'un servosystème de cabestan qui peut fournir un signal de lecture conforme aux normes de radio-diffusion.

1-1. CARACTERISTIQUES

Large plage de correction de 29 H
Une correction d'erreur de base de temps sur une plage de 29 H est possible, et si les erreurs devaient dépasser la plage de correction, aucun mouvement horizontal et aucune fluctuation de synchronisation ne se produirait.

Systèmes PAL et SECAM interchangeables
Par simple changement d'une plaquette de circuit enfichable, il est possible d'utiliser aussi bien le système PAL que le système SECAM, tandis qu'un témoin PAL ou SECAM signale celle qui est installée dans le BVT-800PS.

Alignement dynamique* sur une large plage de vitesse de lecture
Lorsqu'un magnétoscope U-matic de série BVU-820 est raccordé à l'aide du câble à âmes multiples, la lecture est possible de −1 à +3 fois la vitesse normale sans aucun bruit de la bande de sécurité.

Compacité et légèreté
Grâce à l'utilisation de nouveaux circuits intégrés pour la conversion analogique/numérique et numérique/analogique ainsi que d'un processeur de signal de conception nouvelle, les dimensions et le poids du BVT-800PS ont été réduits d'une manière considérable.

Compensateur numérique de manque de signal
Un compensateur numérique moderne remplace tout manque de luminance par le signal de la ligne précédente et tout manque de chrominance par le signal des deux lignes d'avant la perte. Comme ce remplacement du signal s'accomplit de façon numérique, il ne se produit aucune dégradation du signal.

Processeur vidéo
Il est possible d'ajuster le niveau vidéo, le niveau chroma, le niveau du noir, la phase de synchronisation couleur/chroma (modèle PAL uniquement), la phase de la sousporteuse (modèle PAL uniquement) et la phase de synchronisation. De plus, la phase de synchronisation couleur/chroma, la phase de sousporteuse du système et la phase de synchronisation du système peuvent se régler sans interférences mutuelles.

* Le terme "Alignement dynamique (Dynamic Tracking)" est une marque déposée de Sony Corporation.

Générateur de synchronisation incorporé
Le BVT-800PS peut fonctionner avec un signal de synchronisation externe ou avec un signal de synchronisation provenant du générateur de synchronisation incorporé. La stabilité de la sousporteuse est de ±1 Hz à 20°C ±5°C pour le modèle PAL et de ±100 Hz entre 0°C et 40°C pour le modèle SECAM.

Contrôle du retard Y/C
Le retard Y/C peut se contrôler jusqu'à ±150 nsec.

Compensation de gain différentiel
Le gain différentiel (DG) allant jusqu'à 20% peut être compensé à zéro. (Uniquement pour le modèle PAL)

Echantillonnage de 8 bits, Y: 10,9 MHz/C: 5,4 MHz
A la lecture, le signal est converti en un signal numérique par discrimination avec 8 bits Y: 10,9 MHz/C: 5,4 MHz, de sorte qu'aucune dégradation de l'image ne se produit lors de la copie d'une bande.

Image synchronisée à haute vitesse
Avec un magnétoscope de série BVU-800 ou de série BVU-820, il est possible de synchroniser avec le signal de référence une image couleur dont la vitesse de lecture va jusqu'à 5 fois la normale, en marche avant ou en marche arrière. Avec une image monochrome, une image synchronisée est possible de −40 à +40 fois la vitesse de lecture normale.

Sélection de la suppression de trame (V)
Les lignes H de la septième à la vingt-deuxième peuvent être mises en/hors service indépendamment à l'aide des sélecteurs de la plaquette de circuit incorporée; de cette façon, il est possible de choisir la largeur de suppression de trame (V).

Télécommande
Moyennant l'emploi de la télécommande BK-2007 (en option), les réglages de niveau et de phase ci-après peuvent se contrôler à distance.

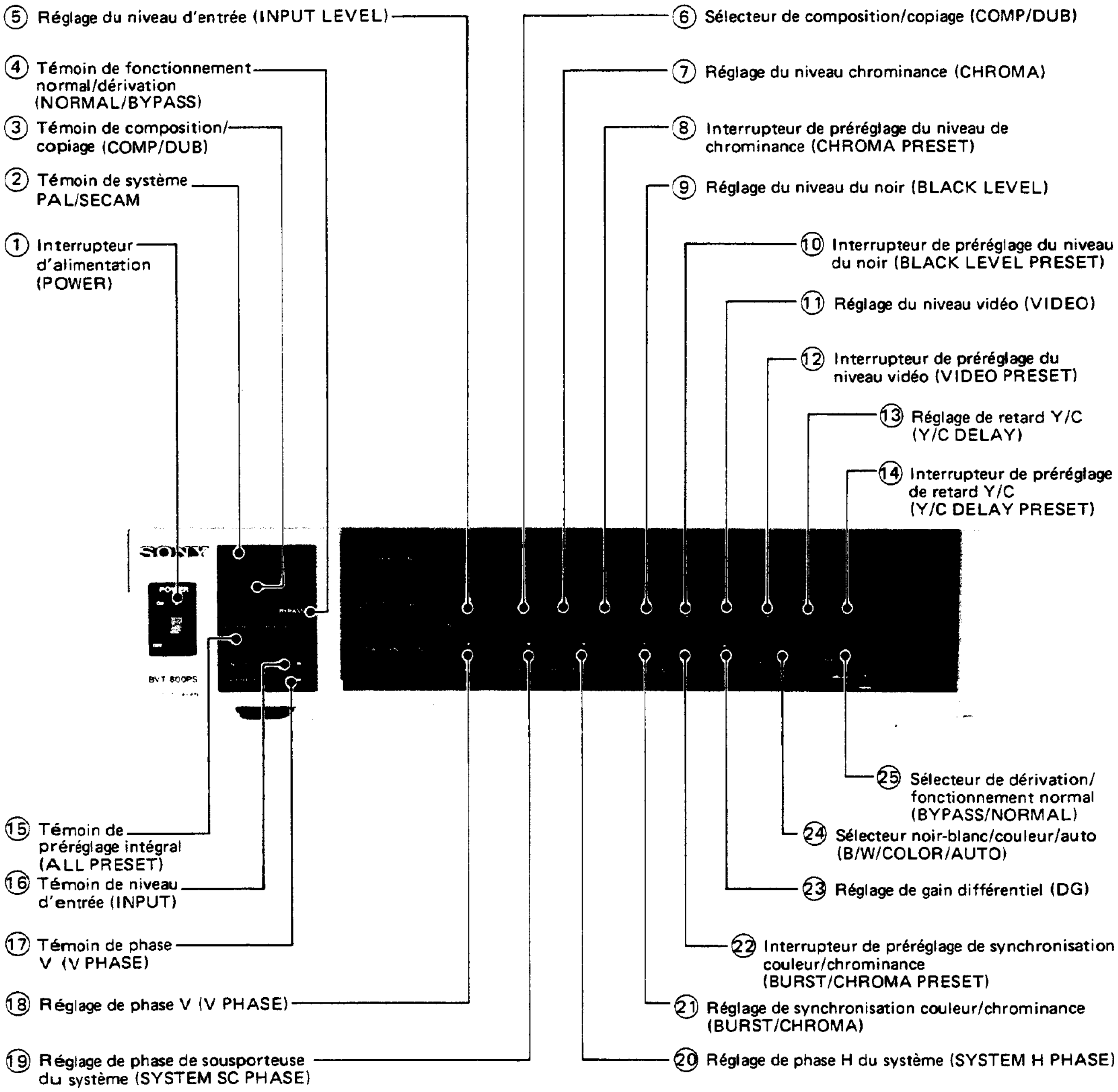
Modèle PAL BVT-800PS(P): Niveau chroma, niveau vidéo, niveau du noir, phase de sousporteuse du système, phase de synchronisation du système, phase de synchronisation couleur/chroma.

Modèle SECAM BVT-800PS(S): Niveau chroma, niveau vidéo, niveau du noir, phase de synchronisation du système.

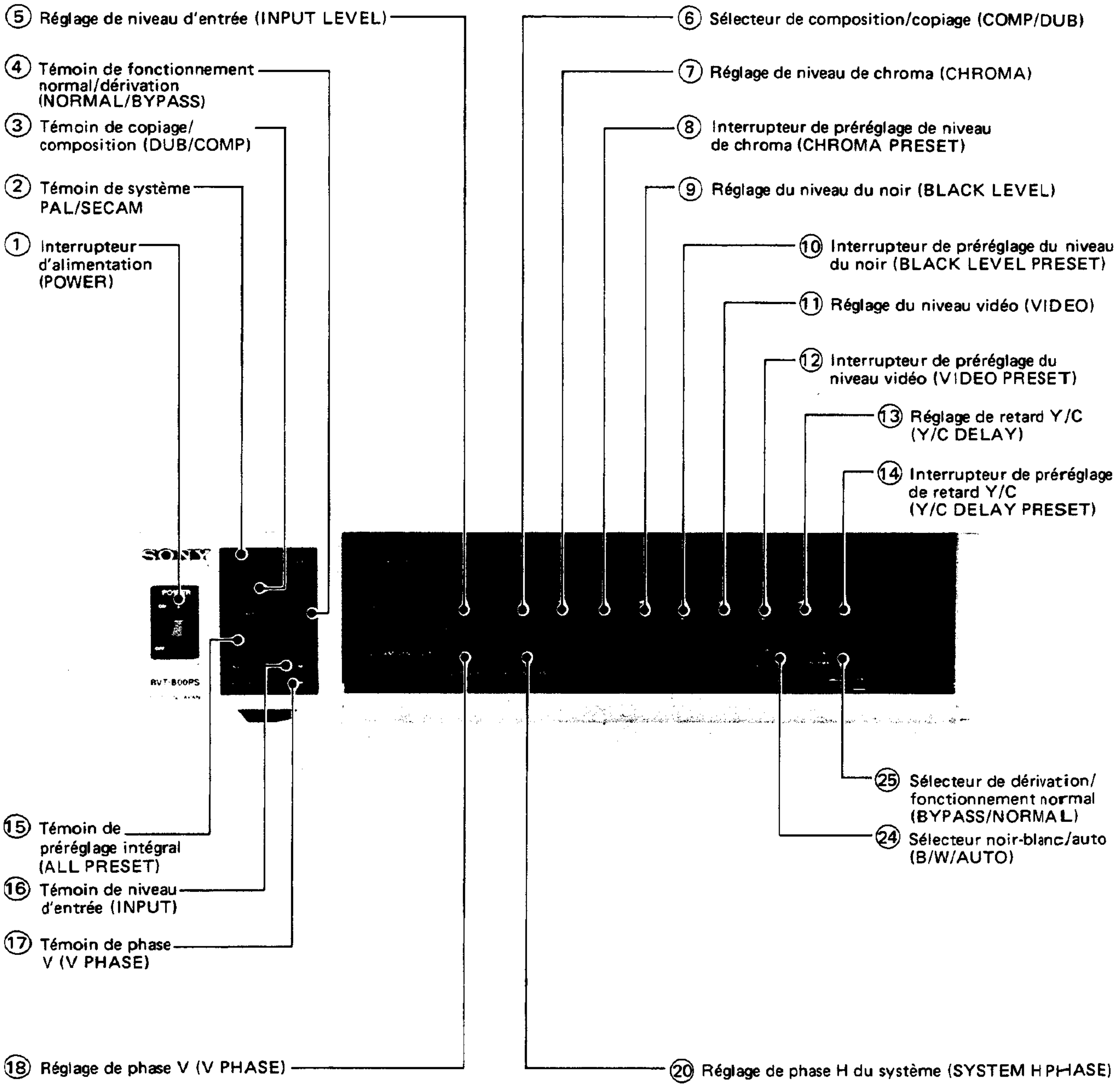
1-2. EMPLACEMENT ET FONCTION DES ORGANES ET DES COMMANDES

1-2-1. Panneau de Contrôle

Modèle BVT-800PS(P) pour système PAL


① Interrupteur d'alimentation (POWER)
② Témoin de système PAL/SECAM
③ Témoin de composition/copiage (COMP/DUB)
④ Témoin de fonctionnement normal/dérivation (NORMAL/BYPASS)
⑤ Réglage du niveau d'entrée (INPUT LEVEL)
⑥ Sélecteur de composition/copiage (COMP/DUB)
⑦ Réglage du niveau chrominance (CHROMA)
⑧ Interrupteur de préréglage du niveau de chrominance (CHROMA PRESET)
⑨ Réglage du niveau du noir (BLACK LEVEL)
⑩ Interrupteur de préréglage du niveau du noir (BLACK LEVEL PRESET)
⑪ Réglage du niveau vidéo (VIDEO)
⑫ Interrupteur de préréglage du niveau vidéo (VIDEO PRESET)
⑬ Réglage de retard Y/C (Y/C DELAY)
⑭ Interrupteur de préréglage de retard Y/C (Y/C DELAY PRESET)
⑮ Témoin de préréglage intégral (ALL PRESET)
⑯ Témoin de niveau d'entrée (INPUT)
⑰ Témoin de phase V (V PHASE)
⑱ Réglage de phase V (V PHASE)
⑲ Réglage de phase de sousporteuse du système (SYSTEM SC PHASE)
⑳ Réglage de phase H du système (SYSTEM H PHASE)
㉑ Réglage de synchronisation couleur/chrominance (BURST/CHROMA)
㉒ Interrupteur de préréglage de synchronisation couleur/chrominance (BURST/CHROMA PRESET)
㉓ Réglage de gain différentiel (DG)
㉔ Sélecteur noir-blanc/couleur/auto (B/W/COLOR/AUTO)
㉕ Sélecteur de dérivation/fonctionnement normal (BYPASS/NORMAL)
SONY
POWER
BVT 800PS

Modèle BVT-800PS(S) pour système SECAM



⑤ Réglage de niveau d'entrée (INPUT LEVEL)

④ Témoin de fonctionnement normal/dérivation (NORMAL/BYPASS)

③ Témoin de copiage/composition (DUB/COMP)

② Témoin de système PAL/SECAM

① Interrupteur d'alimentation (POWER)

⑥ Sélecteur de composition/copiage (COMP/DUB)

⑦ Réglage de niveau de chroma (CHROMA)

⑧ Interrupteur de préréglage de niveau de chroma (CHROMA PRESET)

⑨ Réglage du niveau du noir (BLACK LEVEL)

⑩ Interrupteur de préréglage du niveau du noir (BLACK LEVEL PRESET)

⑪ Réglage du niveau vidéo (VIDEO)

⑫ Interrupteur de préréglage du niveau vidéo (VIDEO PRESET)

⑬ Réglage de retard Y/C (Y/C DELAY)

⑭ Interrupteur de préréglage de retard Y/C (Y/C DELAY PRESET)

⑮ Témoin de préréglage intégral (ALL PRESET)

⑯ Témoin de niveau d'entrée (INPUT)

⑰ Témoin de phase V (V PHASE)

㉕ Sélecteur de dérivation/fonctionnement normal (BYPASS/NORMAL)

㉔ Sélecteur noir-blanc/auto (B/W/AUTO)

⑱ Réglage de phase V (V PHASE)

⑳ Réglage de phase H du système (SYSTEM H PHASE)

① Interrupteur d'alimentation (POWER)
Appuyer sur le côté marqué "ON" pour mettre l'appareil sous tension.

② Témoin de système PAL/SECAM (PAL/SECAM)
Le témoin PAL s'allume lorsque la plaquette de générateur de synchronisation PAL est installée; par contre, si la plaquette SECAM est utilisée, c'est le témoin SECAM qui s'allume.

③ Témoin de copiage/composition (DUB/COMP)
Lorsque le sélecteur COMP-DUB est réglé sur DUB, ou que le magnétoscope de série BVU-800 ou de série BVU-820 est raccordé au connecteur FROM VTR à l'aide d'un câble multiple, le témoin DUB s'allume. Cependant, lorsque le BVU-820P est en mode de lecture à alignement dynamique ou en mode de lecture simultanée, le témoin COMP s'allume. Dans les autres cas, c'est le témoin COMP qui s'allume.

④ Témoin de fonctionnement normal/dérivation (NORMAL/BYPASS)
Le témoin NORMAL ou BYPASS s'allume d'après le réglage du sélecteur BYPASS/NORMAL ㉕.

⑤ Réglage du niveau d'entrée (INPUT LEVEL)
Il permet d'ajuster le niveau d'entrée vidéo dans une plage de ±3 dB. Le niveau correct est signalé en vert sur l'indicateur de niveau d'entrée (INPUT).

⑥ Sélecteur de composition/copiage (COMP/DUB)
Lorsqu'un BVU-200P ou un BVU-200S est raccordé au connecteur DUB IN (U-matic H) à l'aide d'un câble de copiage, on règlera ce sélecteur sur DUB, ce qui fera s'allumer le témoin DUB. Lorsqu'un autre magnétoscope est raccordé au connecteur OFF TAPE VIDEO, régler ce même sélecteur sur COMP et le témoin COMP s'allumera.

- Lorsqu'un magnétoscope de série BVU-800 ou BVU-820 est raccordé au connecteur FROM VTR à l'aide d'un câble multiple, le correcteur BVT-800PS sera automatiquement réglé au mode de copiage, quel que soit le réglage de ce sélecteur et le témoin DUB s'allumera. Cependant, si le BVU-820P est en mode de lecture à alignement dynamique ou en mode de lecture simultanée, le BVT-800PS est mis de force en mode COMP est le témoin COMP s'allume.
- En mode de copiage, le signal ignore le filtre de séparation Y/C de sorte que la largeur de bande du signal de luminance est large.

⑦ Réglage du niveau de chroma (CHROMA)
Lorsque l'interrupteur CHROMA PRESET ⑧ est réglé à la position haute (manuel), le niveau chroma du signal de sortie peut se régler dans une plage de ±3 dB. La plage ajustable des bandes colorées 100% est de 120%.

- Lors du traitement d'un signal SECAM, il sera nécessaire d'éviter une surmodulation de fréquence.

⑧ Interrupteur de préréglage de niveau de chroma (CHROMA PRESET)
On le laissera normalement à la position PRESET où le réglage CHROMA n'exerce aucune influence sur le signal de sortie. Quand cet interrupteur est à la position haute, un ajustement du niveau de chroma est possible à l'aide du réglage CHROMA ⑦.

⑨ Réglage du niveau du noir (BLACK LEVEL)
Le niveau du noir du signal de sortie peut se régler entre 0 et 0,11 V quand l'interrupteur BLACK LEVEL PRESET ⑩ est placé à la position haute (manuel).

⑩ Interrupteur de préréglage du niveau du noir (BLACK LEVEL PRESET)
On le laissera normalement à la position PRESET où le réglage BLACK LEVEL ⑨ n'exerce aucune influence sur le signal de sortie. Quand cet interrupteur est à la position haute (manuel), le niveau du noir peut être ajusté à l'aide du réglage BLACK LEVEL.

⑪ Réglage de niveau vidéo (VIDEO)
Lorsque l'interrupteur VIDEO PRESET ⑫ se trouve à la position haute (manuel), le niveau vidéo peut se régler comme suit:

BVT-800PS (P)
Le niveau de sortie vidéo (luminance et chrominance) peut se régler dans une plage de ±3 dB. Ce réglage est sans effet sur le niveau du signal de synchronisation.

BVT-800PS (S)
Seul le niveau de luminance du signal de sortie peut se régler dans une plage de ±3 dB pour éviter une surmodulation de fréquence du signal de chrominance. Ce réglage est sans effet sur le signal de synchronisation et de chrominance.

⑫ Interrupteur de préréglage de niveau vidéo (VIDEO PRESET)
On le laissera normalement à la position PRESET où le réglage VIDEO ⑪ n'exerce aucune influence sur le signal de sortie. Quand cet interrupteur est à la position haute (manuel), le réglage du niveau vidéo permet d'ajuster ce niveau.

⑬ Réglage de retard Y/C (Y/C DELAY)
Lorsque l'interrupteur Y/C DELAY PRESET est réglé à la position haute (manuel), le retard Y/C du signal d'entrée peut être ramené à "0" si le retard se situe dans la plage de ±150 nsec.

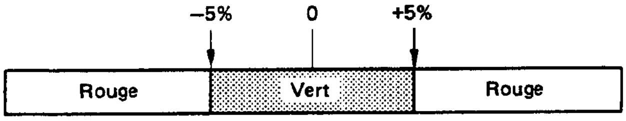
⑭ Interrupteur de préréglage de retard Y/C (Y/C DELAY PRESET)
On le placera normalement à la position PRESET où la valeur ajustée sera "0". Quand il est placé à la position haute, le retard Y/C peut être ajusté à l'aide du réglage Y/C DELAY.

⑮ Témoin de préréglage intégral (ALL PRESET)

Il s'allume quand les interrupteurs CHROMA PRESET, BLACK LEVEL PRESET, Y/C DELAY PRESET, VIDEO PRESET et BURST/CHROMA PRESET (uniquement pour le BVT-800PS(P)) sont tous réglés à la position PRESET.

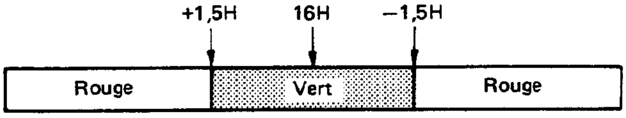
⑯ Témoin de niveau d'entrée (INPUT)

Le niveau d'entrée approprié est affiché en vert sur cet indicateur par observation du niveau du signal de synchronisation.



⑰ Témoin de phase V (V PHASE)

Le BVT-800PS retarde le signal de sortie de 16 H par rapport au signal d'entrée de telle sorte que le signal de lecture du magnétoscope soit avancé de 16 H par rapport au signal de référence. Si le retard du signal de lecture se situe dans la plage de 16 H ± 1,5 H, la section verte de cet indicateur s'allume. Agir sur le réglage V PHASE ⑱ de sorte que cette partie verte s'allume.



⑱ Réglage de phase V (V PHASE)

Le signal de lecture peut être réglé de sorte qu'il soit avancé de 16 H par rapport au signal de référence. Le niveau approprié est affiché en vert sur l'indicateur V PHASE.

⑲ Réglage de phase de sousporteuse du système (SYSTEM SC PHASE) (pour le BVT-800PS(P) uniquement)

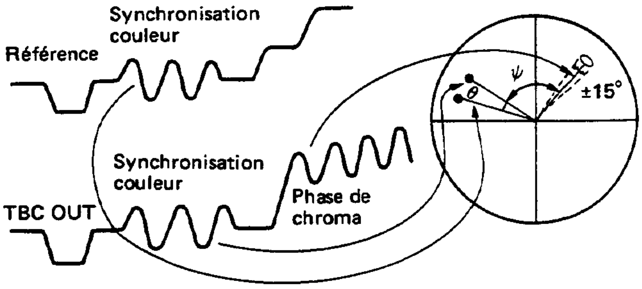
La phase de sousporteuse du signal de sortie peut être ajustée à celle du signal de référence sur une plage de réglage de 360°. Cette commande est sans effet sur le signal vidéo et sur la phase de synchronisation.

⑳ Réglage de phase H du système (SYSTEM H PHASE)

Le retard entre le signal de lecture et le signal de référence, retard qui est causé par la longueur du câble, peut être compensé en ajustant la phase H du système grâce à ce réglage. La plage de cette compensation va de −1 µsec. à +3 µsec. Sur l'illustration suivante, le retard de signal entre le seuil de référence et l'entrée sur le CBT est de 550 nsec. Ainsi, le signal de sortie du correcteur (TBC OUT) sera retardé de 550 nsec. supplémentaires pour revenir au seuil de référence et la phase doit donc être avancée de 1,1 µsec.

㉑ Réglage de synchronisation couleur/chroma (BURST/CHROMA) (pour le BVT-800PS(P) uniquement)

La phase de synchronisation couleur/chroma (ψ) du signal de sortie peut se régler dans une plage de ±15° quand l'interrupteur BURST/CHROMA PRESET se trouve à la position haute (manuel). Cette commande ne permet pas l'ajustement de θ.



㉒ Interrupteur de préréglage de synchronisation couleur/chroma (BURST/CHROMA) (pour le BVT-800PS(P) uniquement)

On le laissera normalement à la position PRESET où le réglage BURST/CHROMA n'exerce aucune influence sur le signal de sortie. Quand cet interrupteur est à la position haute (manuel), le réglage BURST/CHROMA permet d'ajuster la phase de synchronisation couleur/chrominance.

㉓ Réglage de gain différentiel (DG) (pour le BVT-800PS(P) uniquement)

Le gain différentiel d'un magnétoscope U-matic peut se régler dans une plage de ±20%.

㉔ Sélecteur noir-blanc / couleur / auto (B / W / COLOR / AUTO) (pour le modèle PAL)
Sélecteur noir-blanc / auto (B / W / AUTO) (pour le modèle SECAM)

Choisir la position correspondant au signal raccordé au connecteur d'entrée OFF TAPE VIDEO.

B/W: Le signal d'entrée est traité comme un signal monochrome.

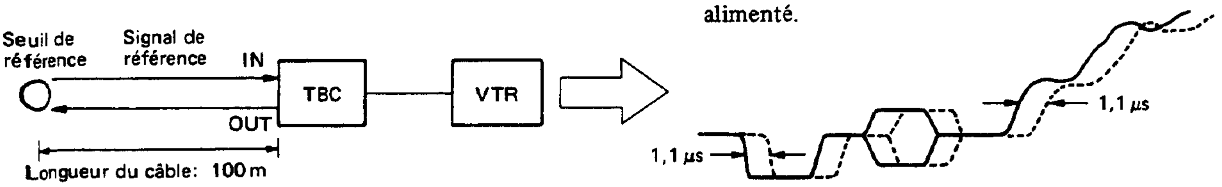
COLOR: Le signal d'entrée est traité comme un signal couleur.

AUTO: Le signal d'entrée est identifié comme signal monochrome ou signal couleur par son niveau de synchronisation couleur. Quand le signal de synchronisation couleur est inférieur au niveau de référence (300 mV) de 12 ± 3 dB, le signal est identifié comme le signal noir-blanc.

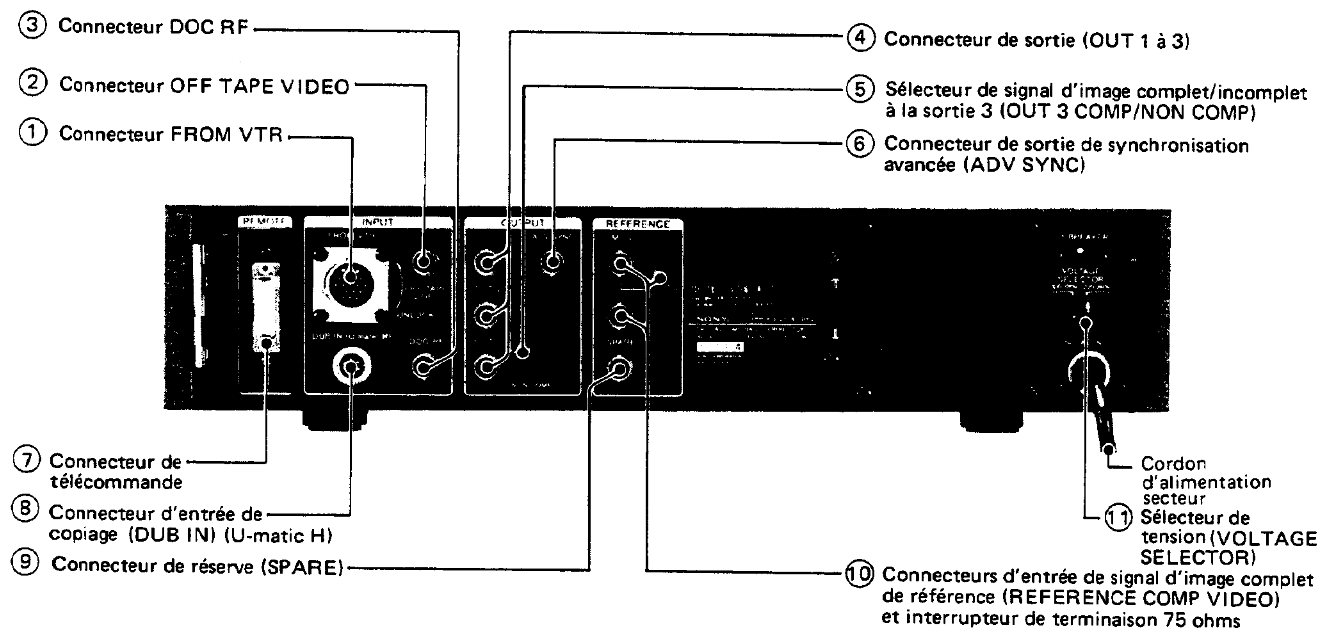
㉕ Sélecteur de dérivation/fonctionnement normal (BYPASS/NORMAL)

BYPASS: Le signal d'entrée ne passe pas par le circuit.

NORMAL: Position habituelle où l'erreur de base de temps du signal d'entrée est corrigée avant que le signal ne soit alimenté.



1-2-2. Panneau des connecteurs


③ Connecteur DOC RF
② Connecteur OFF TAPE VIDEO
① Connecteur FROM VTR
④ Connecteur de sortie (OUT 1 à 3)
⑤ Sélecteur de signal d'image complet/incomplet à la sortie 3 (OUT 3 COMP/NON COMP)
⑥ Connecteur de sortie de synchronisation avancée (ADV SYNC)
⑦ Connecteur de télécommande
⑧ Connecteur d'entrée de copiage (DUB IN) (U-matic H)
⑨ Connecteur de réserve (SPARE)
Cordon d'alimentation secteur
⑪ Sélecteur de tension (VOLTAGE SELECTOR)
⑩ Connecteurs d'entrée de signal d'image complet de référence (REFERENCE COMP VIDEO) et interrupteur de terminaison 75 ohms

① **Connecteur FROM VTR** (à 18 broches) (pour un magnétoscope de série BVU-800 et de série BVU-820)
Raccorder au connecteur TBC sur un magnétoscope de série BVU-800 ou BVU-820 à l'aide du câble à âmes multiples fourni. Cette connexion coupe l'entrée au connecteur OFF TAPE VIDEO ②.

② **Connecteur OFF TAPE VIDEO** (de type BNC)
Raccorder au connecteur de sortie vidéo du magnétoscope.

③ **Connecteur DOC RF** (de type BNC)
Raccorder au connecteur RF (OFF TAPE) du magnétoscope.

④ **Connecteurs de sortie OUT 1 à 3** (de type BNC)
Ces connecteurs fournissent les signaux vidéo et on les raccordera au connecteur d'entrée vidéo de l'équipement utilisé. La sortie du connecteur OUT 3 peut être réglée au signal d'image complet ou incomplet à l'aide du sélecteur COMP/NON COMP ⑤.

⑤ **Sélecteur de signal d'image complet/incomplet à la sortie 3 (OUT 3 COMP/NON COMP)**
Le signal de sortie du connecteur OUT 3 peut être changé par ce sélecteur.
COMP: Un signal d'image complet (VBS, identique à celui de OUT 1 et 2) est fourni.
NON COMP: Un signal incomplet d'image (VB) est fourni.

⑥ **Connecteur de sortie de synchronisation avancée (ADV SYNC OUTPUT)** (de type BNC)
Le signal de synchronisation qui a été avancé de 16 H par rapport au signal de référence est fourni ici. Raccorder à l'entrée de synchronisation sur le magnétoscope.

⑦ **Connecteur de télécommande** (à 15 broches)
Pour contrôler à distance le BVT-800PS, raccorder ici l'unité de télécommande BK-2007.

⑧ **Connecteur d'entrée de copiage (DUB IN) (U-matic H)** (à 7 broches)
Raccorder au connecteur DUB OUT sur le BVU-200P ou sur le BVU-200S et l'on peut obtenir une forte largeur de bande. A l'emploi de ce connecteur, on placera sur DUB le sélecteur COMP/DUB sur le panneau avant.

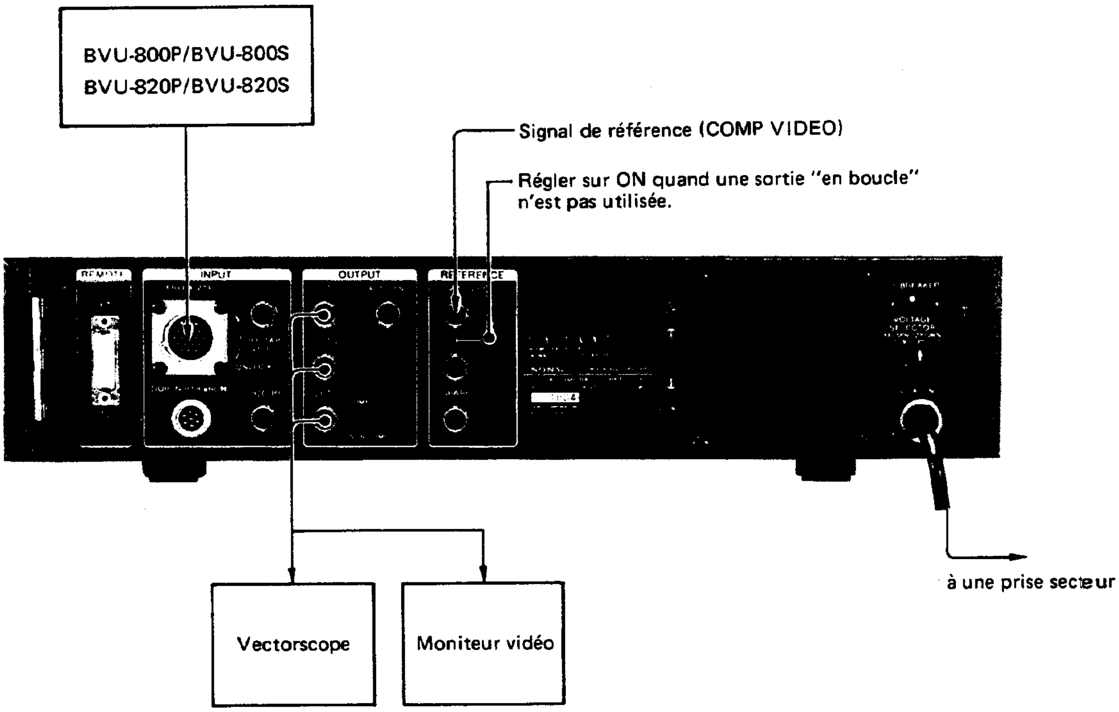
⑨ **Connecteur de réserve (SPARE)** (de type BNC)
Aucune connexion n'est effectuée ici.

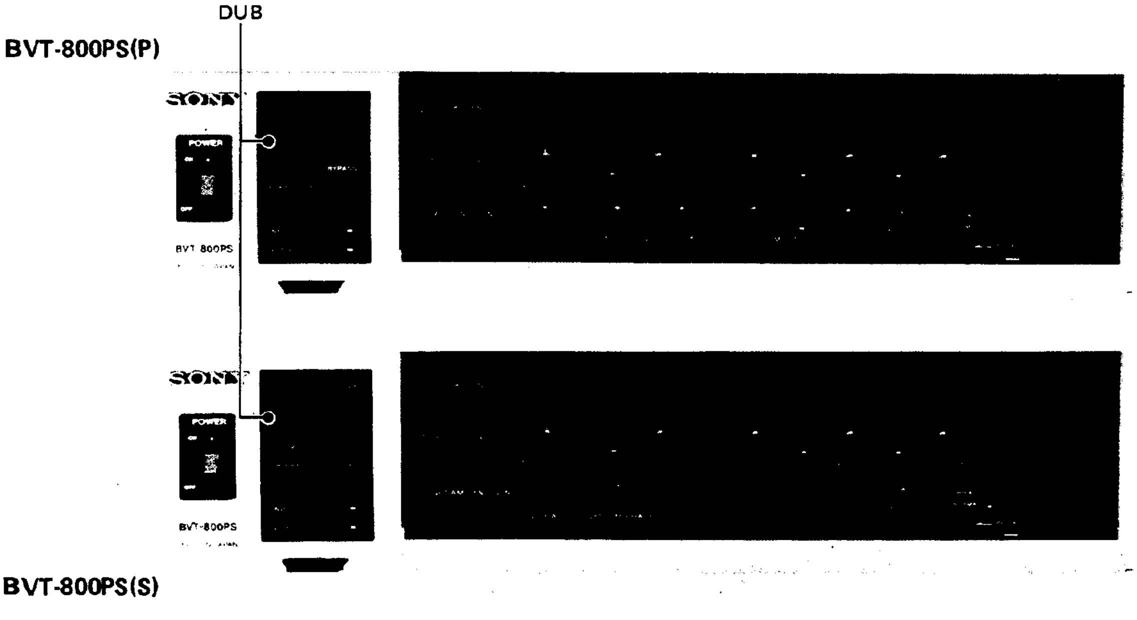
⑩ **Connecteurs d'entrée de signal d'image complet de référence (REFERENCE COMP VIDEO)** (de type BNC) **et interrupteur de terminaison 75 ohms**
Raccorder ici un signal de référence. Comme ces deux connecteurs présentent une configuration "en boucle", le signal d'entrée de l'un est fourni directement à l'autre. A l'emploi d'une sortie "en boucle", veiller à placer l'interrupteur de terminaison 75 ohms sur OFF; on le laissera sur ON à l'emploi d'une sortie différente.

⑪ **Sélecteur de tension (VOLTAGE SELECTOR)**
Il doit être réglé à la tension du secteur local. Si un réglage de ce sélecteur s'impose, déposer le couvercle, appuyer sur le sélecteur, puis replacer le couvercle.

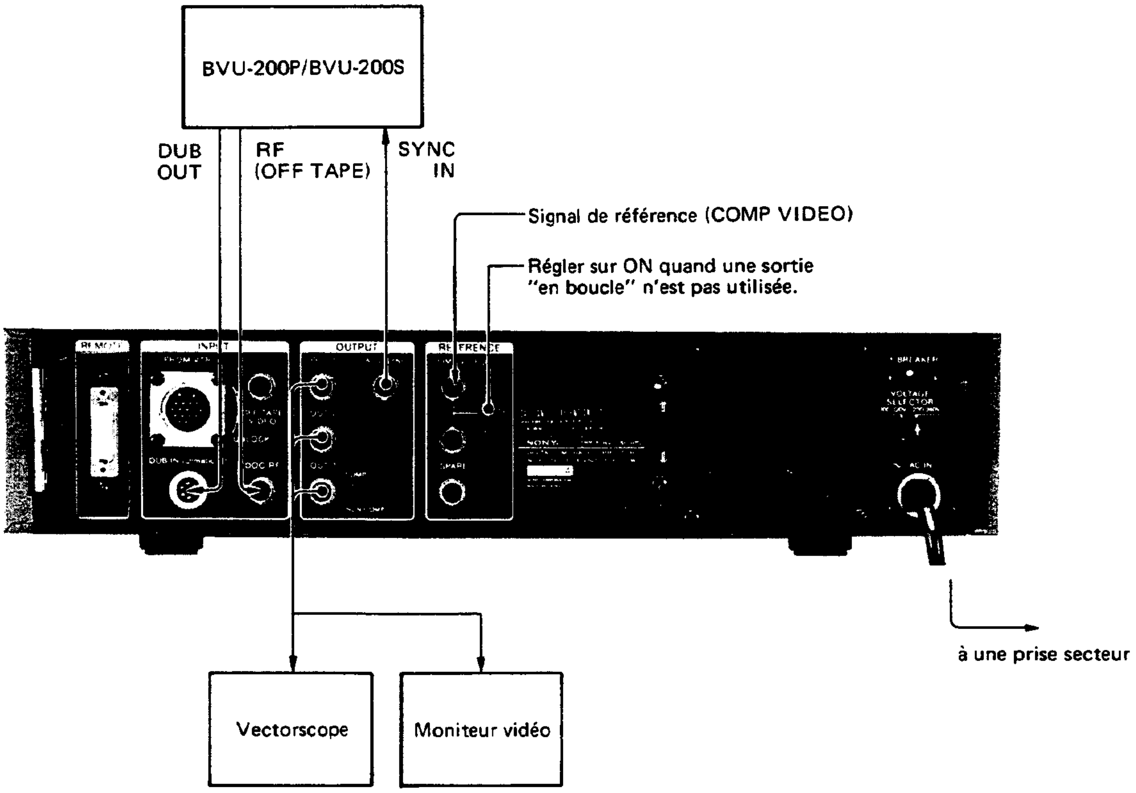
1-3. CONNEXIONS ET UTILISATION

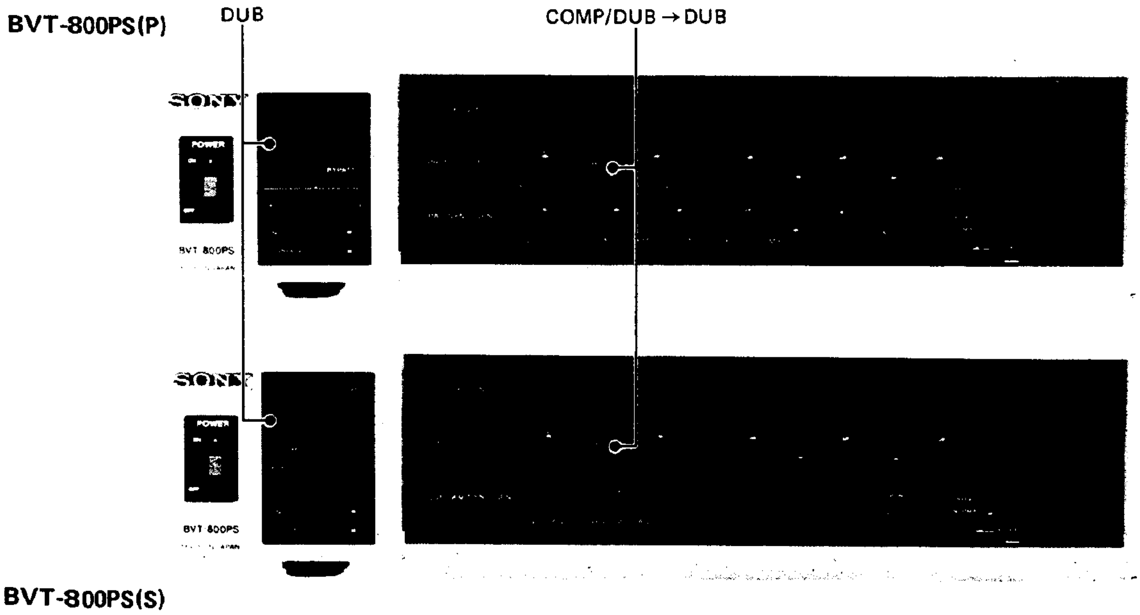
1-3-1. Connexions à un BVU-800P/BVU-800S et BVU-820P/BVU-820S


BVU-800P/BVU-800S
BVU-820P/BVU-820S
Signal de référence (COMP VIDEO)
Régler sur ON quand une sortie "en boucle" n'est pas utilisée.
REMOTE
INPUT
OUTPUT
REFERENCE
à une prise secteur
Vectorscope
Moniteur vidéo

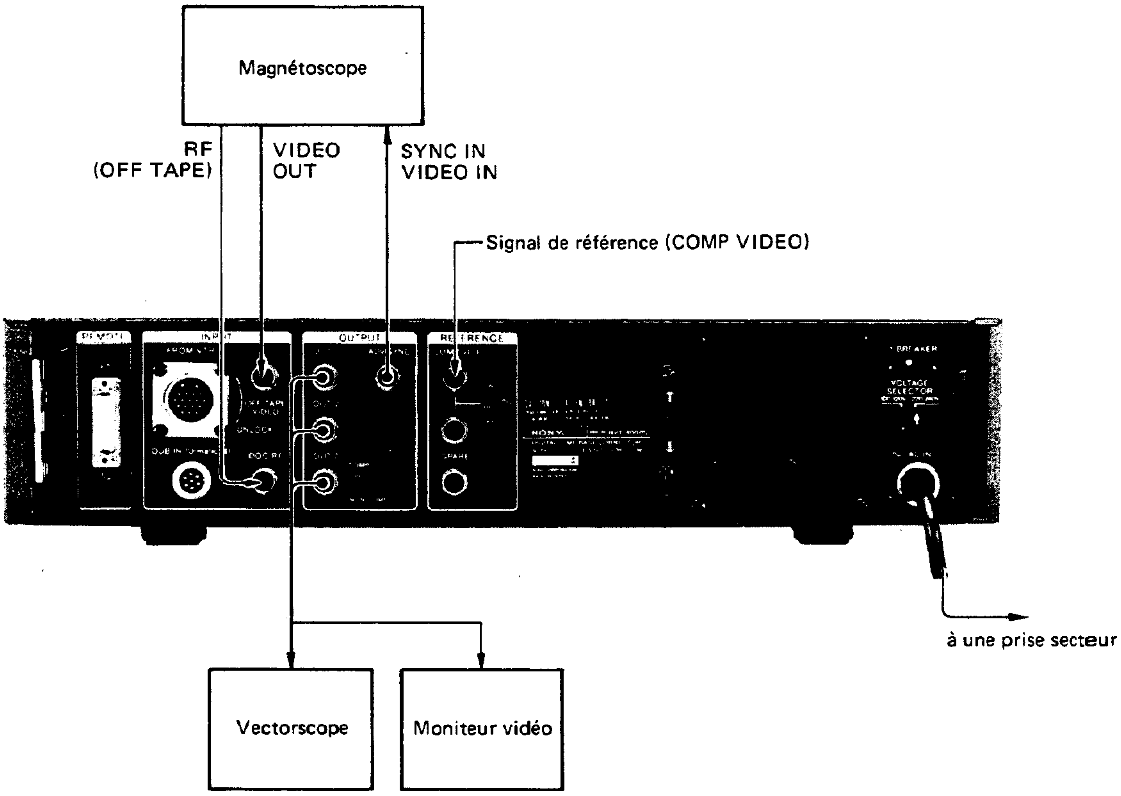

DUB
BVT-800PS(P)
SONY
POWER
BVT-800PS
BVT-800PS(S)

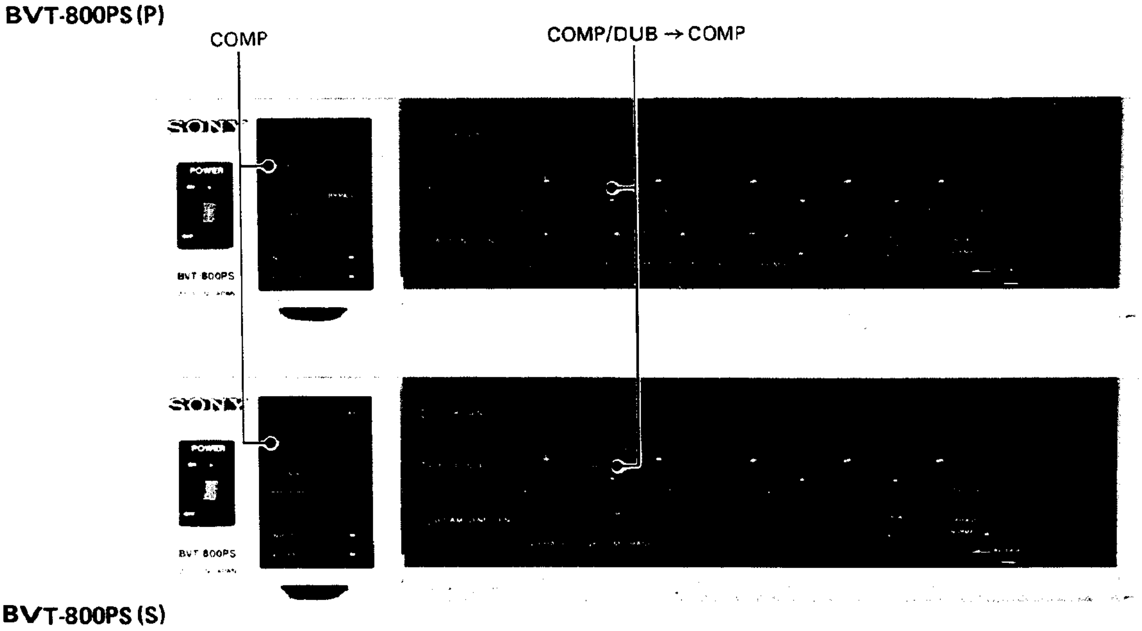
1-3-2. Connexion à un BVU-200P/BVU-200S


BVU-200P/BVU-200S
DUB OUT
RF (OFF TAPE)
SYNC IN
Signal de référence (COMP VIDEO)
Régler sur ON quand une sortie "en boucle" n'est pas utilisée.
à une prise secteur
Vectorscope
Moniteur vidéo


BVT-800PS(P)
DUB
COMP/DUB → DUB
BVT-800PS(S)

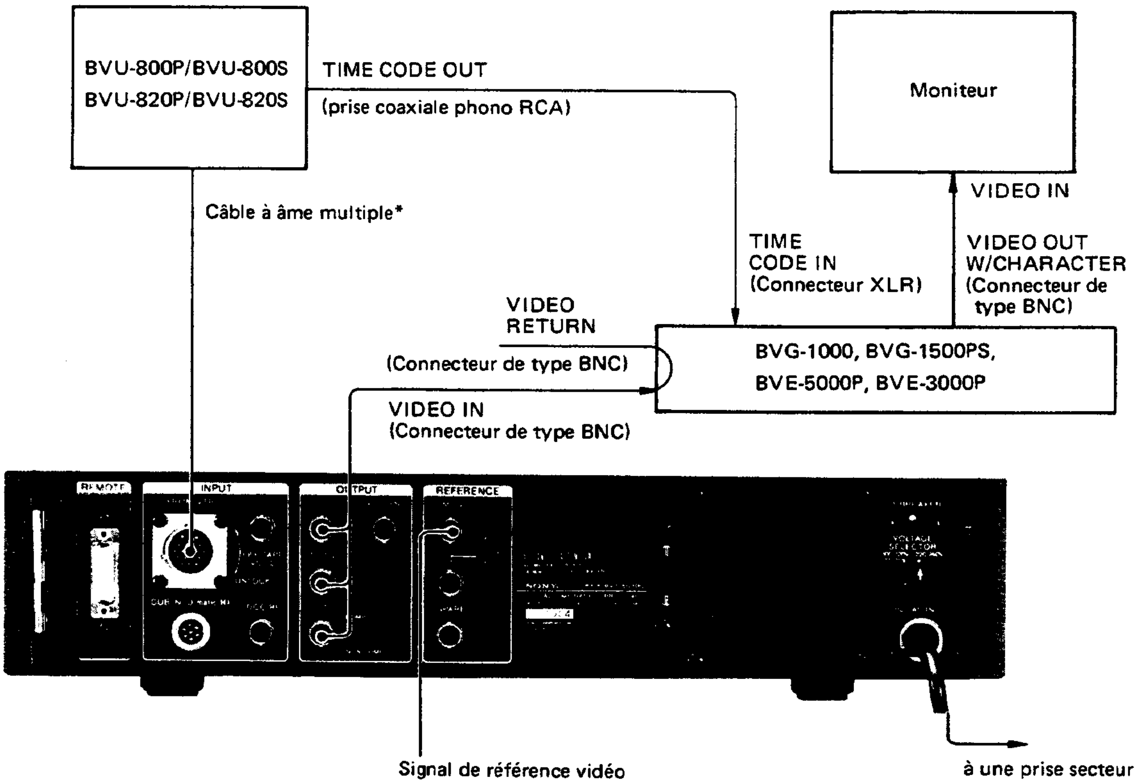
1-3-3. Connexion à un magnétoscope autre que celui de série BVU qui est prévu d'un servosystème de cabestan


Magnétoscope
RF (OFF TAPE)
VIDEO OUT
SYNC IN VIDEO IN
Signal de référence (COMP VIDEO)
à une prise secteur
Vectorscope
Moniteur vidéo


BVT-800PS (P)
COMP
COMP/DUB → COMP
BVT-800PS (S)

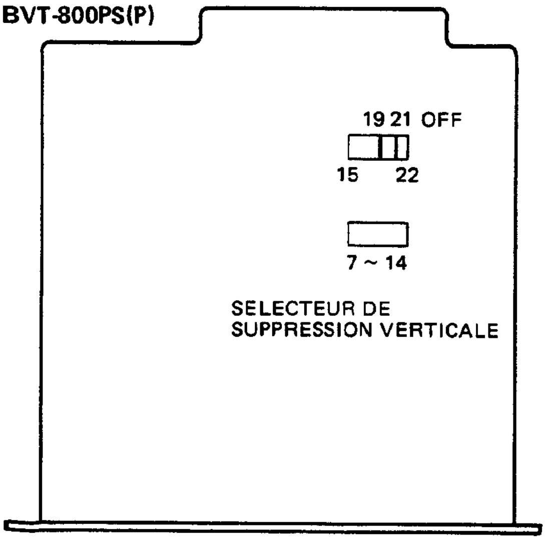
1-3-4. Connexion pour utiliser le VITC (code de temps à intervalle vertical)

Brancher un des magnétoscope BVU-800P, BVU-800S, BVU-820P ou BVU-820S et un des BVG-1500PS, BVG-1000, BVE-5000P ou BVE-3000P.

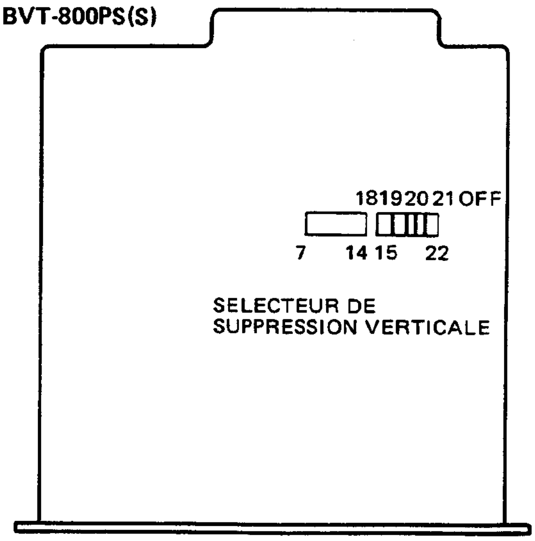

BVU-800P/BVU-800S
BVU-820P/BVU-820S
TIME CODE OUT
(prise coaxiale phono RCA)
Moniteur
VIDEO IN
Câble à âme multiple*
TIME CODE IN
(Connecteur XLR)
VIDEO OUT W/CHARACTER
(Connecteur de type BNC)
VIDEO RETURN
(Connecteur de type BNC)
BVG-1000, BVG-1500PS,
BVE-5000P, BVE-3000P
VIDEO IN
(Connecteur de type BNC)
REMOTE
INPUT
OUTPUT
REFERENCE
Signal de référence vidéo
à une prise secteur

* Quand le magnétoscope de série BVU-200 est utilisé, se référer au chapitre 1-3-2.

Quand le VITC est utilisé, s'assurer de placer les sélecteurs de suppression verticale pour 19 et 21 lignes du modèle PAL ou pour 18, 19, 20 et 21 lignes du modèle SECAM, sur OFF.


BVT-800PS(P)
19 21 OFF
15 22
7 ~ 14
SELECTEUR DE
SUPPRESSION VERTICALE

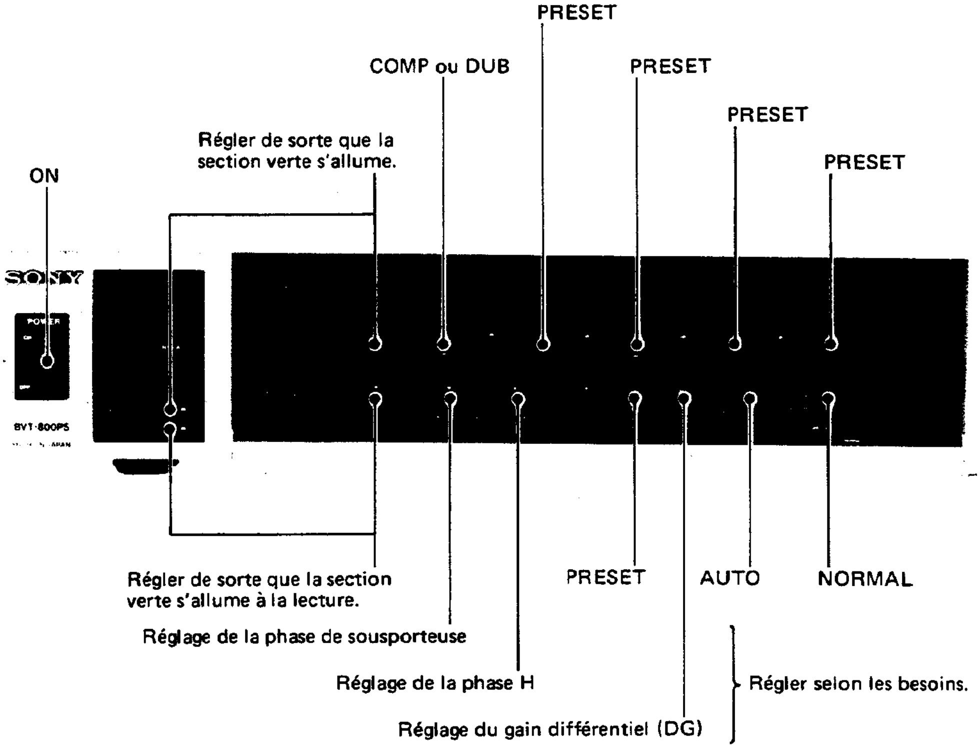
Plaquette de générateur de synchronisation PAL


BVT-800PS(S)
18 19 20 21 OFF
7 14 15 22
SELECTEUR DE
SUPPRESSION VERTICALE

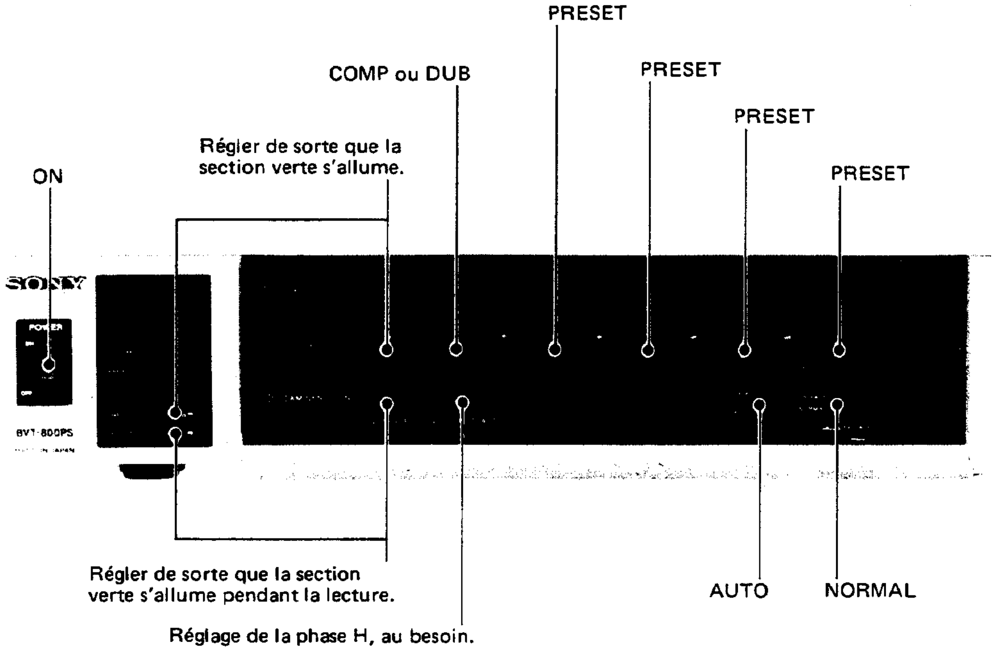
Plaquette de générateur de de synchronisation SECAM

1-3-5. Réglages Fondamentaux

BVT-800PS(P) pour système PAL


PRESET
COMP ou DUB
PRESET
PRESET
Régler de sorte que la section verte s'allume.
PRESET
ON
SONY
POWER
BVT-800PS
Régler de sorte que la section verte s'allume à la lecture.
PRESET
AUTO
NORMAL
Réglage de la phase de sousporteuse
Réglage de la phase H
Réglage du gain différentiel (DG)
Régler selon les besoins.

BVT-800PS(S) pour système SECAM


PRESET
COMP ou DUB
PRESET
PRESET
Régler de sorte que la section verte s'allume.
ON
PRESET
SONY
POWER
BVT-800PS
Régler de sorte que la section verte s'allume pendant la lecture.
AUTO
NORMAL
Réglage de la phase H, au besoin.

1-4. SPECIFICATIONS

Données générales

Alimentation électrique
Secteur 100 - 120 V (90 - 132 V)/220 - 240 V (198 - 264 V) réglable, 50/60 Hz (48 - 62 Hz)

Consommation électrique
100 W

Plage des températures de fonctionnement
De 0°C à 40°C (de 32°F à 104°F)

Plage des températures d'immobilisation
De −10°C à +60°C (de 14°F à 140°F)

Humidité De 10 à 90% (non condensation)

Dimensions 424 x 88 x 515 mm (l/h/p)
(16 3/4 x 3 1/2 x 20 3/8 pouces)

Poids 13 kg (28 livres 10 onces)

Accessoires fournis

Plaquette d'extension EB-9A x1
Nécessaire pour montage en rack x1
(Poignée x2, Vis B4x12 x4, Vis K4x10 x4)
Câble à âmes multiples x1
Mode d'emploi et d'entretien x1

La conception et les spécifications peuvent être modifiées sans préavis.

		BVT-800PS(P) PAL	BVT-800PS(S) SECAM
Vidéo	Largeur de bande COMP IN	Y: 2,5 MHz ±0,4 dB, 3,25 MHz −3 dB C: ±0,7 MHz −3 dB	Y: 2,5 MHz ±0,4 dB, 3,25 MHz −3 dB C: ±0,5 MHz −3 dB
	DUB IN	Y: 3,5 MHz ±0,4 dB, 4,3 MHz −3 dB C: ±0,75 MHz −3 dB	Y: 3,5 MHz ±0,4 dB, 4,3 MHz −3 dB C: ±0,5 MHz −3 dB
	Rapport signal/bruit	55 dB	55 dB
	Gain différentiel	2%	——
	Phase différentielle	2°	——
	Facteur K (impulsion 2T) COMP IN	4%	4%
	DUB IN	2%	2%
	Retard chrominance/luminance	10 nsec.	10 nsec.
	Plage de correction	29 H(c-c)	29 H(c-c)
	Erreur résiduelle	Couleur: ±2,5 nsec. Monochrome: ±15 nsec.	±15 nsec.
Signal d'entrée	Vidéo bande coupée	Composite 1,0 V(c-c) ±3 dB (réglable), 75 ohms	
	Entrée copiage	Luminance: 0,5 V(c-c) ±3 dB (réglable), 75 ohms Chrominance: 0,5 V(c-c), 75 ohms	
	Signal de référence DOC	0,5 V ±6 dB, 75 ohms	
	Référence de signal d'image complet	1,0 V(c-c) ±3 dB, 75 ohms en/hors service	
Signal de sortie	Sync d'avance	2,2 V ±0,3 V, 75 ohms	
	Sortie vdéo	1: 1,0 V(c-c) 2: 1,0 V(c-c) 3: 1,0 V(c-c)/0,7 V(c-c) (signal incomplet d'image)	
Commandes de sortie	Niveau vidéo	±3 dB	±3 dB (luminance seulement)
	Niveau chroma	±3 dB	±3 dB
	Niveau du noir	0 – 0,11 V	0 – 0,11 V
	Phase de synchronisation couleur/chroma	±15°	——
	Compensateur DG	±20%	——
	Phase sync de système	de −1 à +3 µsec.	de −1 à +3 µsec.
	Phase sousporteuse de système	plus de ±180°	——
	Retard Y/C	±150 nsec.	±150 nsec.

TEIL 1
BETRIEB

Bei Modell BVT-800PS handelt es sich um einen digitalen Time-Base-Corrector, der an einen Videorecorder mit Farbträger-Heruntersetzung und Capstan-Servosystem angeschlossen werden kann und das Wiedergabesignal für die Anforderungen im Rundfunkbereich aufarbeitet.

1-1. BESONDERE MERKMALE

Breiter Korrekturbereich von 29 H
Ein Fenster von 29 H (ss) erlaubt eine Zeitbasiskorrektur über einen weiten Bereich. Selbst wenn der Fehler diesen Korrekturbereich überschreitet, tritt weder eine horizontale Verschiebung noch eine Synchronisationsverschiebung auf.

Sowohl für PAL- als auch SECAM-Systeme verwendbar
Zur Umstellung von PAL auf SECAM braucht im BVT-800PS lediglich eine Leiterplatte ausgetauscht zu werden. PAL- und SECAM-Indikatoren zeigen an, welche Leiterplatte momentan im BVT-800PS eingesetzt ist.

Dynamic Tracking* (Dynamische Spurlage) für weiten Variationsbereich der Wiedergabegeschwindigkeit
Wird ein U-matic Videorecorder der BVU-820-Serie über ein mehradriges Kabel angeschlossen, so ist ein Variieren der Wiedergabegeschwindigkeit von −1 bis +3facher Normalgeschwindigkeit ohne Störungen vom Spurrasen möglich.

Kompakte und leichte Auslegung
Durch neue ICs im A/D- und D/A-Wandler sowie eines neu entwickelten Signalprozessors konnte der BVT-800PS äußerst kompakt und leicht ausgelegt werden.

Digitaler Dropoutkompensator
Ein hochwertiger digitaler Dropoutkompensator ersetzt Dropout-Stellen im Luminanzsignal durch das Signal der vorhergehenden Zeile und Dropout-Stellen im Chromasignal durch das Signal der zweitletzten Zeile. Da das Ersetzen der Zeilen digital geschieht, tritt keine Qualitätsminderung auf.

Videoprozessor
Videopegel, Chromapegel, Schwarzpegel, Burst/Chroma-Phase (nur beim PAL-Modell), Hilfsträger-Phase (nur beim PAL-Modell) und Sync-Phase können eingestellt werden. Burst/Chroma-Phase, System-Hilfsträger-Phase und System-Sync-Phase können ohne gegenseitige Beeinflussung eingestellt werden.

Eingebauter Synchronsignalgenerator
Der BVT-800PS kann mit einem externen Synchronsignal oder mit dem vom eingebauten Synchronsignalgenerator gelieferten Signal arbeiten. Die Hilfsträgerfrequenzstabilität beträgt ±1 Hz bei 20°C ±5°C (PAL-Modell) bzw. ±100 Hz bei 0°C bis 40°C (SECAM-Modell).

Y/C-Verzögerungsregler
Die Y/C-Verzögerung kann in einem Bereich von ±150 nsec eingestellt werden.

DG-Kompensation
Ein Differenzialgewinn (DG) bis zu 20% kann zu null gemacht werden. (Nur beim PAL-Modell)

8-Bit-Abtastung, Y:10,9 MHz/C:5,4 MHz
Das Wiedergabesignal wird durch eine 8-Bit-Abtastung (Y:10,9 MHz/C:5,4 MHz) in ein Digitalsignal umgewandelt, so daß beim Kopieren eines Bandes keinerlei Qualitätsminderung auftritt.

Synchronisierte Wiedergabe mit hoher Geschwindigkeit
Videorecorder der BVU-800- oder BVU-820-Serie liefern bis zur 5fachen Normalgeschwindigkeit in Vorwärts- und Rückwärtsrichtung, ein mit dem Referenzsignal synchronisiertes Farb-Wiedergabebild. Bei einem Schwarzweißbild ist eine synchronisierte Wiedergabe von −40 bis +40facher Normalgeschwindigkeit möglich.

Wahl der V-Austastung
Zur Einstellung der V-Austastung können die H-Zeilen von der 7 bis zur 22 unabhängig an den Schaltern der eingebauten Leiterplatte ein- und ausgeschaltet werden.

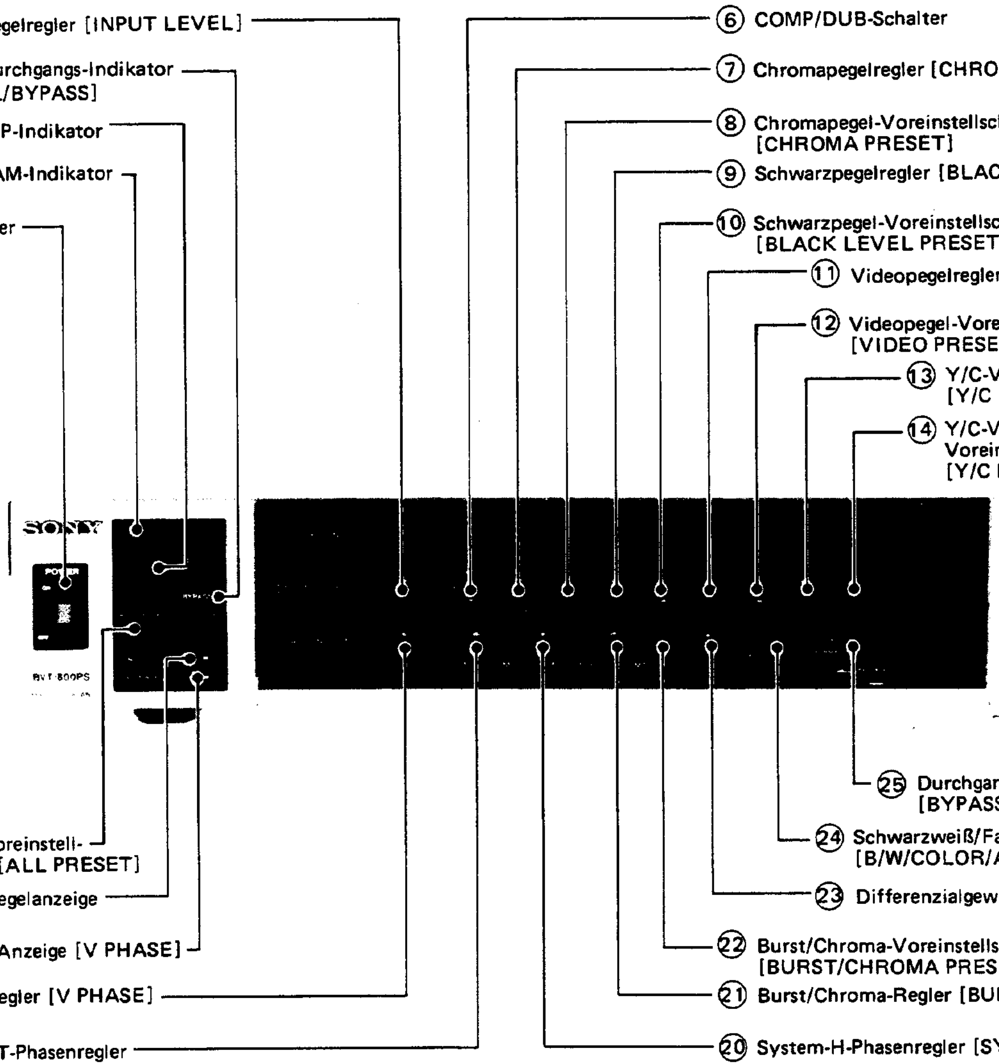
Fernbedienung
Mit den TBC-Fernbedien-Feld BK-2007 (Sonderzubehör) können folgende Pegel- und Phaseneinstellungen fernbedient vorgenommen werden.
BVT-800PS(P), PAL-Modell: Chromapegel, Videopegel, Schwarzpegel, System-HT-Phase, System-Sync-Phase, Burst/Chroma-Phase
BVT-800PS(S), SECAM-Modell: Chromapegel, Videopegel, Schwarzpegel, System-HT-Phase.

* Dynamic Tracking ist ein Warenzeichen der Sony Corporation.

1-2. LAGE UND FUNKTION DER BEDIENUNGSELEMENTE

1-2-1. Bedienungspult

BVT-800PS(P), PAL-Modell



⑤ Eingangspegelregler [INPUT LEVEL]

④ Normal/Durchgangs-Indikator [NORMAL/BYPASS]

③ DUB/COMP-Indikator

② PAL/SECAM-Indikator

① Netzschalter [POWER]

⑥ COMP/DUB-Schalter

⑦ Chromapegelregler [CHROMA]

⑧ Chromapegel-Voreinstellschalter [CHROMA PRESET]

⑨ Schwarzpegelregler [BLACK LEVEL]

⑩ Schwarzpegel-Voreinstellschalter [BLACK LEVEL PRESET]

⑪ Videopegelregler [VIDEO]

⑫ Videopegel-Voreinstellschalter [VIDEO PRESET]

⑬ Y/C-Verzögerungsregler [Y/C DELAY]

⑭ Y/C-Verzögerungs-Voreinstellschalter [Y/C DELAY PRESET]

⑮ Gesamt-Voreinstell-Indikator [ALL PRESET]

⑯ Eingangspegelanzeige [INPUT]

⑰ V-Phasen-Anzeige [V PHASE]

⑱ V-Phasenregler [V PHASE]

⑲ System-HT-Phasenregler [SYSTEM SC PHASE]

㉕ Durchgang/Normal-Schalter [BYPASS/NORMAL]

㉔ Schwarzweiß/Farbe/Auto-Schalter [B/W/COLOR/AUTO]

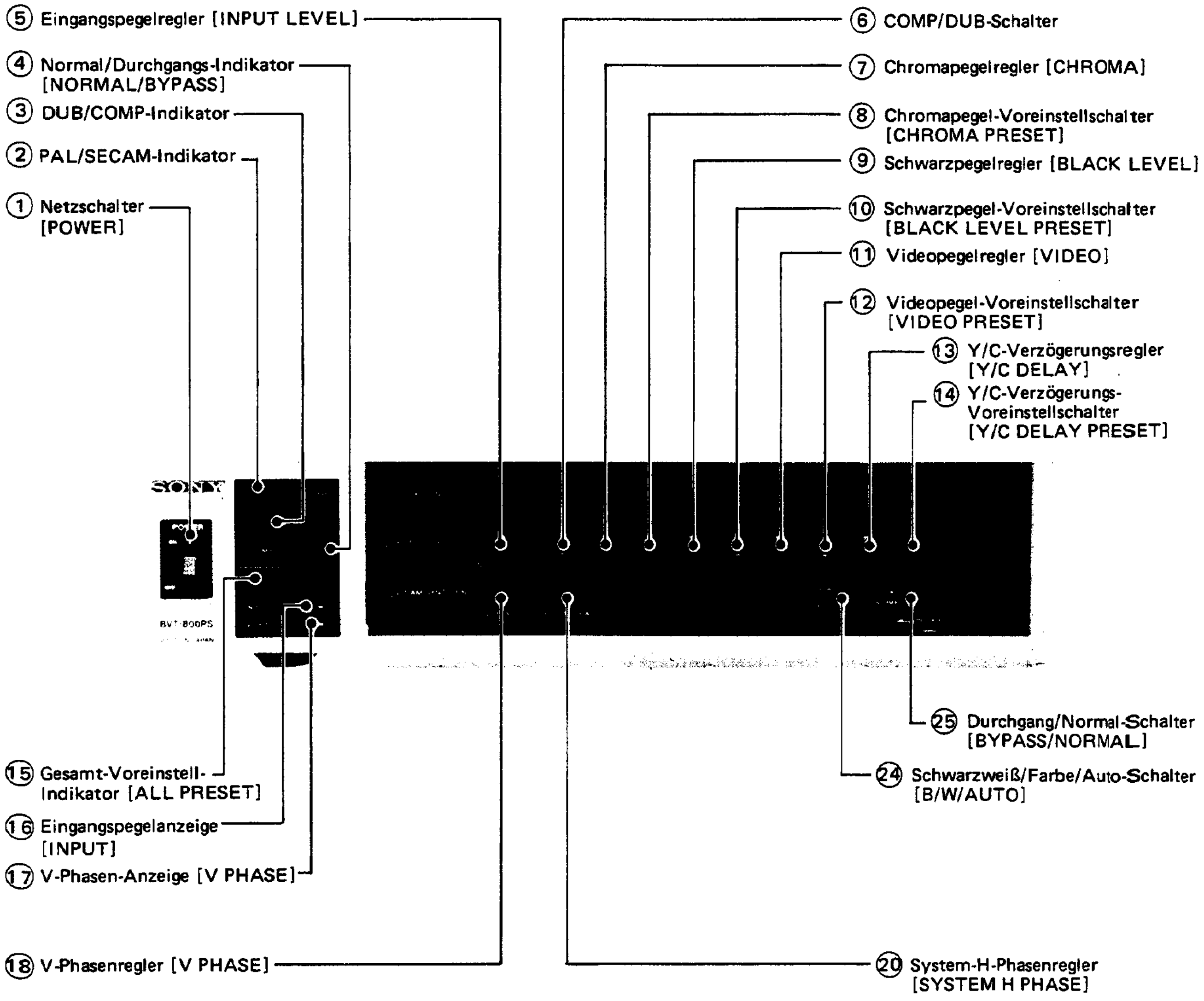
㉓ Differenzialgewinn-Regler [DG]

㉒ Burst/Chroma-Voreinstellschalter [BURST/CHROMA PRESET]

㉑ Burst/Chroma-Regler [BURST/CHROMA]

⑳ System-H-Phasenregler [SYSTEM H PHASE]

BVT-800PS(S), SECAM-Modell


⑤ Eingangspegelregler [INPUT LEVEL]
④ Normal/Durchgangs-Indikator [NORMAL/BYPASS]
③ DUB/COMP-Indikator
② PAL/SECAM-Indikator
① Netzschalter [POWER]
⑥ COMP/DUB-Schalter
⑦ Chromapegelregler [CHROMA]
⑧ Chromapegel-Voreinstellschalter [CHROMA PRESET]
⑨ Schwarzpegelregler [BLACK LEVEL]
⑩ Schwarzpegel-Voreinstellschalter [BLACK LEVEL PRESET]
⑪ Videopegelregler [VIDEO]
⑫ Videopegel-Voreinstellschalter [VIDEO PRESET]
⑬ Y/C-Verzögerungsregler [Y/C DELAY]
⑭ Y/C-Verzögerungs-Voreinstellschalter [Y/C DELAY PRESET]
SONY
POWER
BVT-800PS
⑮ Gesamt-Voreinstell-Indikator [ALL PRESET]
⑯ Eingangspegelanzeige [INPUT]
⑰ V-Phasen-Anzeige [V PHASE]
⑱ V-Phasenregler [V PHASE]
㉕ Durchgang/Normal-Schalter [BYPASS/NORMAL]
㉔ Schwarzweiß/Farbe/Auto-Schalter [B/W/AUTO]
⑳ System-H-Phasenregler [SYSTEM H PHASE]

① Netzschalter [POWER]
Zum Einschalten auf die „ON"-Seite des Schalters drücken.

② PAL/SECAM-Indikator
Ist die PAL-Synchronsignalgeneratorplatte eingesetzt, leuchtet der PAL-Indikator, und ist die SECAM-Synchronsignalgeneratorplatte eingesetzt, leuchtet der SECAM-Indikator.

③ DUB/COMP-Indikator
Wenn der COMP-DUB-Schalter auf DUB gestellt ist oder ein Videorecorder der BVU-800/820-Serie an den FROM VTR-Anschluß über ein mehradriges Kabel angeschlossen ist, so leuchtet der DUB-Indikator. Ist der BVU-820P jedoch auf Wiedergabe mit dynamischer Spurlage oder Simultan-Wiedergabe geschaltet, so leuchtet der COMP-Indikator. In allen anderen Fällen leuchtet der COMP-Indikator.

④ Normal/Durchgangs-Indikator [NORMAL/BYPASS]
Entsprechend der Stellung des BYPASS/NORMAL-Schalters leuchtet der NORMAL- oder der BYPASS-Indikator.

⑤ Eingangspegelregler [INPUT LEVEL]
Der Videoeingangspegel kann in einem Bereich von ±3 dB eingestellt werden. Bei korrekter Pegeleinstellung leuchtet der grüne Indikator der INPUT-Pegelanzeige.

⑥ COMP/DUB-Schalter
Wird ein BVU-200P oder ein BVU-200S an den DUB IN (U-matic H)-Anschluß mit einem Überspielkabel angeschlossen, so ist dieser Schalter auf DUB zu stellen. Der DUB-Indikator leuchtet dann auf. Wird ein anderer Videorecorder an den OFF TAPE VIDEO-Anschluß angeschlossen, so ist dieser Schalter auf COMP zu stellen. Der COMP-Indikator leuchtet dann.

- Wird ein Videorecorder der BVU-800- oder BVU-820-Serie an den FROM VTR-Anschluß über ein mehradriges Kabel angeschlossen, so schaltet der BVT-800PS automatisch auf die Überspielfunktion unabhängig von der Stellung dieses Schalters und unabhängig davon, ob der DUB-Indikator leuchtet. Ist der BVU-820P jedoch auf Wiedergabe mit dynamischer Spurlage oder Simultan-Wiedergabe geschaltet, so wird der BVT-800PS zwangsweise auf COMP-Funktion geschaltet und der COMP-Indikator leuchtet.
- Bei Überspielbetrieb wird das Y/C-Trennungsfilter übergangen, so daß das Luminanzsignal eine größere Bandbreite aufweist.

⑦ Chromapegelregler [CHROMA]
Steht der CHROMA PRESET-Schalter in der oberen Stellung (manuell), so kann der Chromapegel des Ausgangssignals in einem Bereich von ±3 dB eingestellt werden. Bei einem 100% Standard-Farbbalkensignal erhält man dann am VIDEO OUT-Anschluß einen Chromapegel von 120%.

- Bei der Aufbereitung eines SECAM-Signals, ist darauf zu achten, eine Übermodulation zu vermeiden.

⑧ Chromapegel-Voreinstellschalter [CHROMA PRESET]
Normalerweise auf PRESET stellen. In dieser Stellung hat der CHROMA-Regler keinen Einfluß auf das Ausgangssignal. Steht der Schalter dagegen in der oberen Stellung, so kann der Chromapegel am CHROMA-Regler eingestellt werden.

⑨ Schwarzpegelregler [BLACK LEVEL]
Steht der BLACK LEVEL PRESET-Schalter in der oberen Stellung (manuell), so kann der Schwarzpegel des Ausgangssignals von 0 bis 0,11 V eingestellt werden.

⑩ Schwarzpegel-Voreinstellschalter [BLACK LEVEL PRESET]
Normalerweise auf PRESET stellen. In dieser Stellung hat der BLACK LEVEL-Regler keinen Einfluß auf das Ausgangssignal. Wird der Schalter dagegen nach oben (manuell) gestellt, so kann der Schwarzpegel am BLACK LEVEL-Regler eingestellt werden.

⑪ Videopegelregler [VIDEO]
Steht der VIDEO PRESET-Schalter oben (manuell), so kann der Videopegel folgendermaßen eingestellt werden:
BVT-800PS(P)
Das Video-Ausgangssignal (Luminanz und Chroma) kann in einem Bereich von ±3 dB eingestellt werden. Der Synchronsignalpegel wird dagegen nicht durch diesen Regler beeinflußt.
BVT-800PS(S)
Es wird nur der Luminanzpegel des Ausgangssignals in einem Bereich von ±3 dB eingestellt, um eine Übermodulation des Chromasignals zu vermeiden. Der Regler hat dagegen keinen Einluß auf das Synchron- und Chromasignal.

⑫ Videopegel-Voreinstellschalter [VIDEO PRESET]
Normalerweise auf PRESET stellen. Der VIDEO-Pegelregler hat dann keinen Einfluß auf das Ausgangssignal. Wird der Schalter nach oben gestellt (manuell), so kann der Videopegel am VIDEO-Pegelregler eingestellt werden.

⑬ Y/C-Verzögerungsregler [Y/C DELAY]
Steht der Y/C DELAY PRESET-Schalter in der oberen Stellung (manuell), so kann die Y/C-Verzörung mit diesem Regler zu null gemacht werden, wenn die Y/C-Verzögerung des Eingangssignals einen Bereich von ±150 nsec nicht überschreitet.

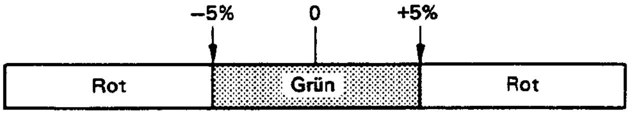
⑭ Y/C-Verzögerungs-Voreinstellschalter [Y/C DELAY PRESET]
Normalerweise auf PRESET stellen. Der Verzögerungswert ist dann 0. Wird der Schalter nach oben gestellt, so kann die Y/C-Verzögerung am Y/C DELAY-Regler eingestellt werden.

⑮ Gesamt-Voreinstell-Indikator [ALL PRESET]

Dieser Indikator leuchtet, wenn der CHROMA PRESET-, BLACK LEVEL PRESET-, Y/C DELAY PRESET, VIDEO PRESET- (und bei BVT-800PS(P) auch BURST/CHROMA PRESET-) Schalter auf PRESET gestellt sind.

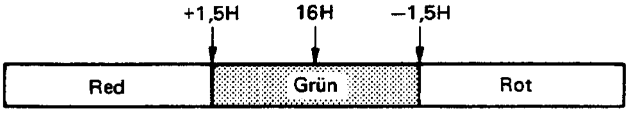
⑯ Eingangspegelanzeige [INPUT]

Hier wird der Synchronsignalpegel angezeigt. Bei richtiger Einstellung des Eingangspegels leuchtet der grüne Indikator.



⑰ V-Phasen-Anzeige [V PHASE]

Der BVT-800PS verzögert das Ausgangssignal um 16 H gegenüber dem Eingangssignal, so daß das Videorecorder-Wiedergabesignal um 16 H gegenüber dem Referenzsignal voreilt. Liegt die Verzögerung des Wiedergabesignals in einem Bereich von 16 H ± 1,5 H, so leuchtet der grüne Indikator der Anzeige. Stellen Sie den V PHASE-Regler so ein, daß dieser grüne Indikator leuchtet.



⑱ V-Phasenregler [V PHASE]

Hier kann das Wiedergabesignal so eingestellt werden, daß es um 16 H gegenüber dem Referenzsignal voreilt. Bei richtiger Einstellung leuchtet der grüne Indikator der V PHASE-Anzeige.

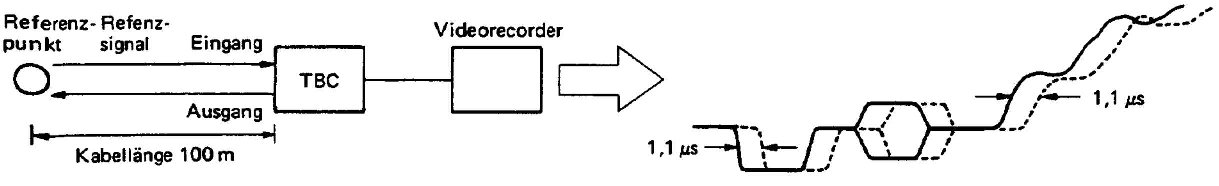
⑲ System-HT-Phasenregler [SYSTEM SC PHASE] (nur bei BVT-800PS(P))

Die Hilfsträgerphase des Ausgangssignals kann hier dem Referenzsignal angepaßt werden. Der Einstellbereich beträgt 360°. Dieser Regler hat keinen Einfluß auf die Video- und Sync-Phase.

⑳ System-H-Phasenregler [SYSTEM H PHASE]

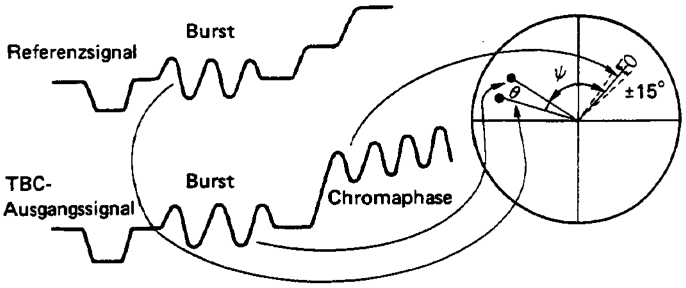
Die durch das Kabel verursachte Verzögerung zwischen Wiedergabe- und Referenzsignal kann kompensiert werden, indem an diesem Regler die System-H-Phase eingestellt wird. Der Einstellbereich beträgt −1 µsec +3 µsec.

In der folgenden Abbildung beträgt die Signalverzögerung zwischen Referenzpunkt und Eingang des TBC 550 nsec. Bei der Rückkehr zum Referenzpunkt wird das TBC-Ausgangssignal noch einmal um 550 nsec verzögert, so daß eine Phasenvoreilung von 1,1 µsec eingestellt werden muß.



㉑ Burst/Chroma-Regler [BURST/CHROMA] (nur bei BVT-800PS(P))

Hier kann die Burst/Chroma-Phase (ψ) des Ausgangssignals in einem Bereich von ±15° eingestellt werden, wenn der BURST/CHROMA PRESET-Schalter in der oberen Position (manuell) steht. Dieser Regler dient nicht zur Einstellung von θ.



㉒ Burst/Chroma/Voreinstellschalter [BURST/CHROMA PRESET] (nur bei BVT-800PS(P))

Normalerweise auf PRESET stellen. Der BURST/CHROMA-Regler hat dann keinen Einfluß auf das Ausgangssignal. Wird der Schalter dagegen in die oberen Position (manuell) gestellt, so kann die Burst/Chroma-Phase am BURST/CHROMA-Regler eingestellt werden.

㉓ Differenzialgewinn-Regler [DG] (nur bei BVT-800PS(P))

Hier kann die Differenzialphase eines U-matic Videorecorders in einem Bereich von ±20% eingestellt werden.

㉔ Schwarzweiß / Farbe / Auto-Schalter [B / W / COLOR / AUTO] (PAL-Modell)
Schwarzweiß / Auto-Schalter [B / W / AUTO] (SECAM-Modell)

Dieser Schalter ist entsprechend des dem OFF TAPE VIDEO-Anschluß zugeleiteten Signals einzustellen.

B/W: Das Eingangssignal wird als Schwarzweißsignal behandelt.

COLOR: Das Eingangssignal wird als Farbsignal behandelt.

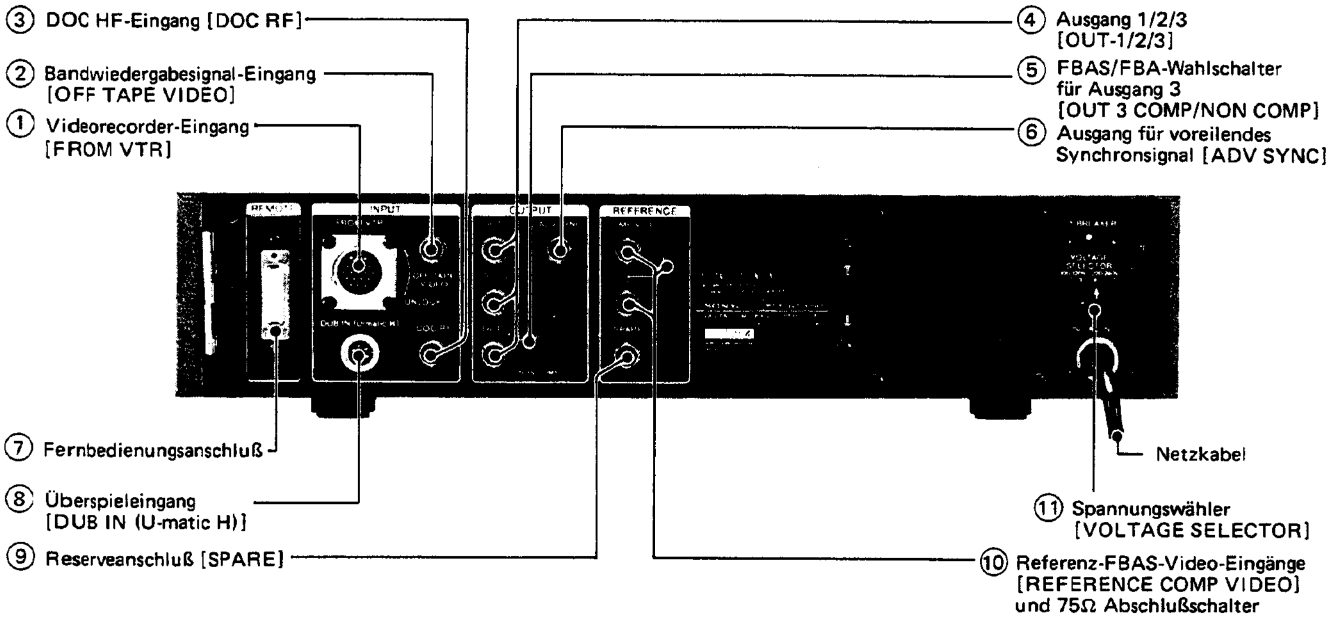
AUTO: Die Umschaltung zwischen Schwarzweiß und Farbe erfolgt automatisch durch Erkennung des Burstsignals. Liegt der Burstsignalpegel um 12 ± 3 dB unter dem Referenzpegel (300 mV), so wird das Signal als Schwarzweiß-Signal behandelt.

㉕ Durchgang/Normal-Schalter [BYPASS/NORMAL]

BYPASS: Das Eingangssignal umgeht die Schaltkreise und wird direkt dem Ausgang zugeleitet.

NORMAL: Verwenden Sie normalerweise diese Stellung. Der Zeitbasisfehler des Eingangssignals wird korrigiert, und das korrigierte Signal kann am Ausgang abgegriffen werden.

1-2-2. Anschlußtafel


③ DOC HF-Eingang [DOC RF]
② Bandwiedergabesignal-Eingang [OFF TAPE VIDEO]
① Videorecorder-Eingang [FROM VTR]
④ Ausgang 1/2/3 [OUT-1/2/3]
⑤ FBAS/FBA-Wahlschalter für Ausgang 3 [OUT 3 COMP/NON COMP]
⑥ Ausgang für voreilendes Synchronsignal [ADV SYNC]
⑦ Fernbedienungsanschluß
⑧ Überspieleingang [DUB IN (U-matic H)]
⑨ Reserveanschluß [SPARE]
Netzkabel
⑪ Spannungswähler [VOLTAGE SELECTOR]
⑩ Referenz-FBAS-Video-Eingänge [REFERENCE COMP VIDEO] und 75Ω Abschlußschalter

① **Videorecorder-Eingang [FROM VTR]** (18-polig, für Videorecorder der BVU-800- und BVU-820-Serie)
Verbinden Sie diesen Eingang über das mitgelieferte mehradrige Kabel mit dem TBC-Anschluß eines Videorecorders der BVU-800- oder BVU-820-Serie. Der OFF TAPE VIDEO-Eingang ② wird dann desaktiviert.

② **Bandwiedergabesignal-Eingang [OFF TAPE VIDEO]** (BNC-Buchse)
Zum Anschluß an den Videoausgang des Videorecorders.

③ **DOC HF-Eingang [DOC RF]** (BNC-Buchse)
Zum Anschluß an den RF (OFF TAPE)-Anschluß des Videorecorders.

④ **Ausgang 1/2/3 [OUT-1/2/3]** (BNC-Buchsen)
Hier liegt das Videoausgangssignal an. Verbinden diese Ausgänge mit den Eingängen der zu verwendenden Geräte. Das am OUT-3-Anschluß herausgeführte Videosignal kann am COMP/NON COMP-Umschalter ⑤ zwischen FBAS und FBA umgeschaltet werden.

⑤ **FBAS/FBA-Wahlschalter für Ausgang 3 [OUT 3 COMP/NON COMP]**
Zur Umschaltung des am OUT-3-Anschluß herausgeführten Signals.
COMP: Es liegt ein FBAS-Signal an (genau wie am OUT-1- und OUT-2-Anschluß).
NON COMP: Es liegt ein FBA-Signal an.

⑥ **Ausgang für voreilendes Synchronsignal [ADV SYNC]** (BNC-Buchse)
Hier liegt ein um 16 H gegenüber dem Referenzsignal voreilendes Synchronsignal an. Verbinden Sie diese Buchse mit dem Synchronsignaleingang eines Videorecorders.

⑦ **Fernbedienungsanschluß** (15-polig)
Hier kann zur Fernbedienung des BVT-800PS das TBC-Fernbedien-Feld BK-2007 angeschlossen werden.

⑧ **Überspieleingang [DUB IN (U-matic H)]** (7-polig)
Wird dieser Anschluß an den DUB OUT-Anschluß eines BVU-200P oder BVU-200S Videorecorders angeschlossen, so erhält man eine größere Bandbreite. Stellen Sie bei Verwendung dieses Anschlusses den COMP/DUB-Schalter am vorderen Bedienungspult auf DUB.

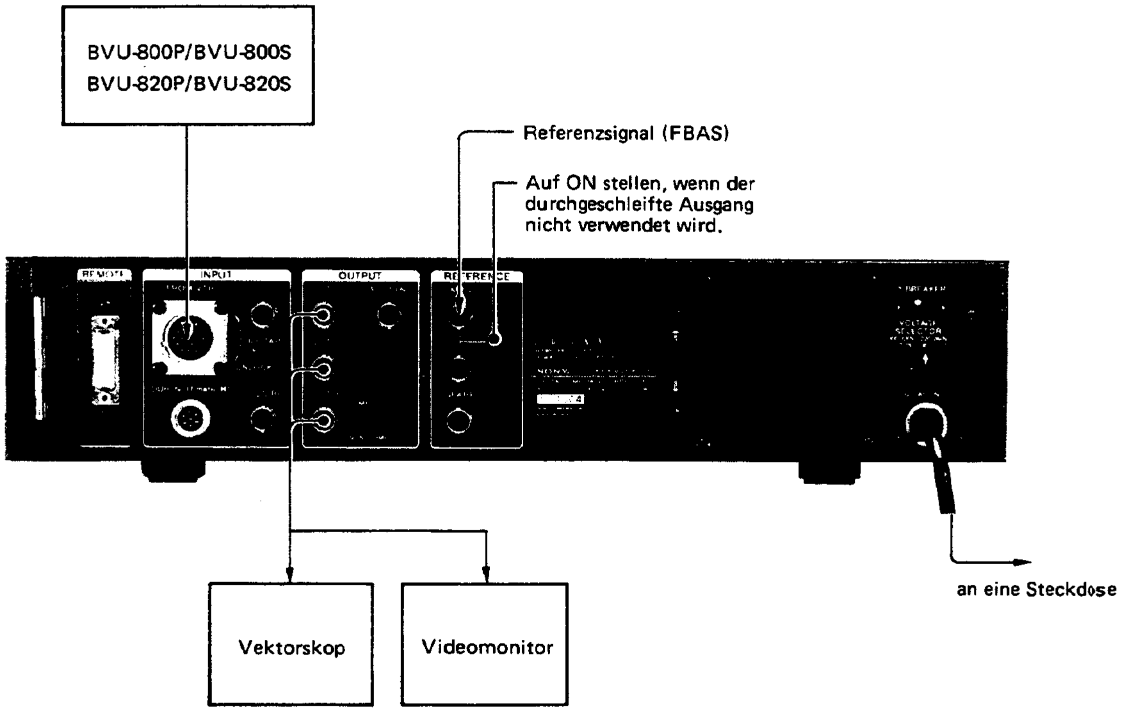
⑨ **Reserveanschluß [SPARE]** (BNC-Buchse)
Kein Anschluß erforderlich.

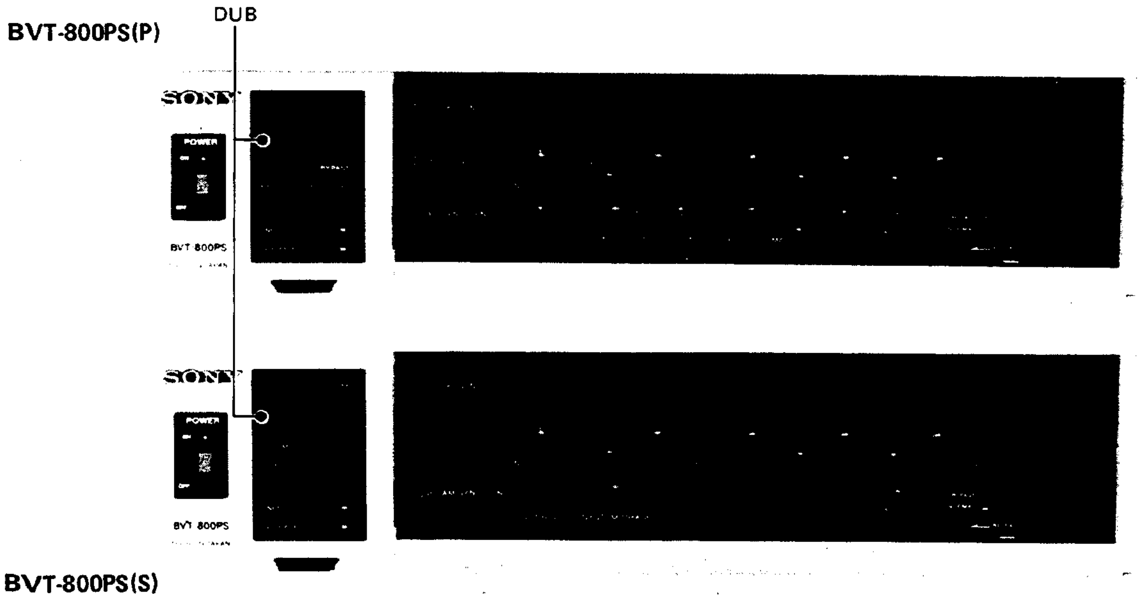
⑩ **Referenz-FBAS-Video-Eingänge [REFERENCE COMP VIDEO] und 75Ω Abschlußschalter**
Leiten Sie hier ein Referenzsignal (FBAS oder Burst-Synchron) zu. Die beiden Eingänge sind durchgeschleift, so daß das einem der beiden Eingänge zugeleitete Signal direkt zum anderen Eingang geleitet wird. Wenn ein durchgeschleifter Ausgang verwendet wird, muß der 75Ω Abschlußschalter auf OFF gestellt werden. Wird kein durchgeschleifter Ausgang verwendet, so ist der Schalter auf ON zu stellen.

⑪ **Spannungswähler [VOLTAGE SELECTOR]**
Zur Einstellung der Netzspannung. Ist eine Umstellung erforderlich, so nehmen Sie die Kappe ab, stellen Sie den Schalter um, indem Sie ihn drücken, und bringen Sie die Kappe wieder an.

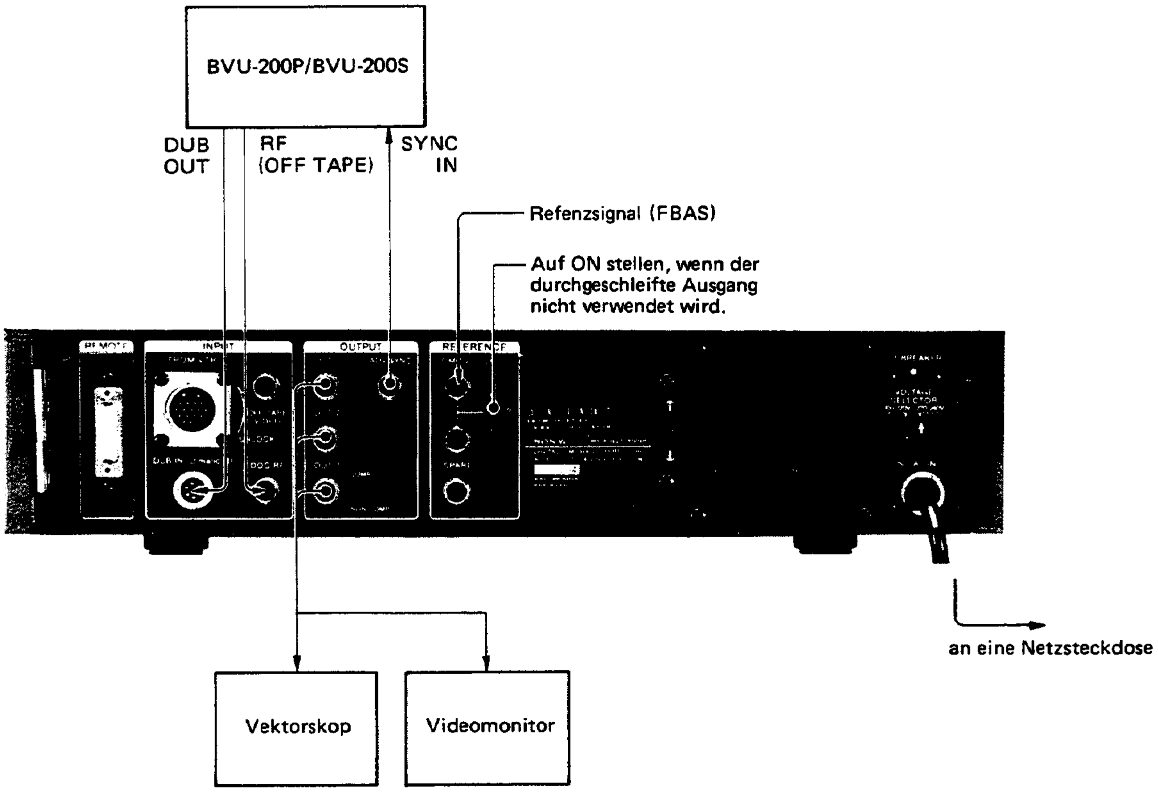
1-3. ANSCHLUSS UND BETRIEB

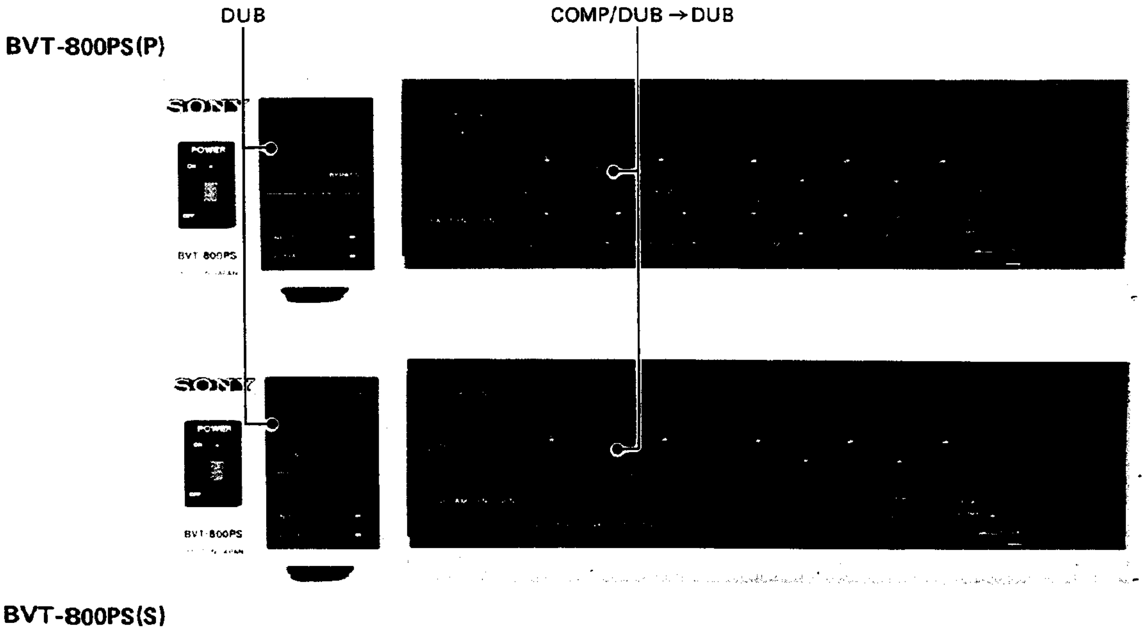
1-3-1. Anschluß eines BVU-800P/BVU-800S oder BVU-820P/BVU-820S


BVU-800P/BVU-800S
BVU-820P/BVU-820S
Referenzsignal (FBAS)
Auf ON stellen, wenn der durchgeschleifte Ausgang nicht verwendet wird.
REMOTE
INPUT
OUTPUT
REFERENCE
an eine Steckdose
Vektorskop
Videomonitor

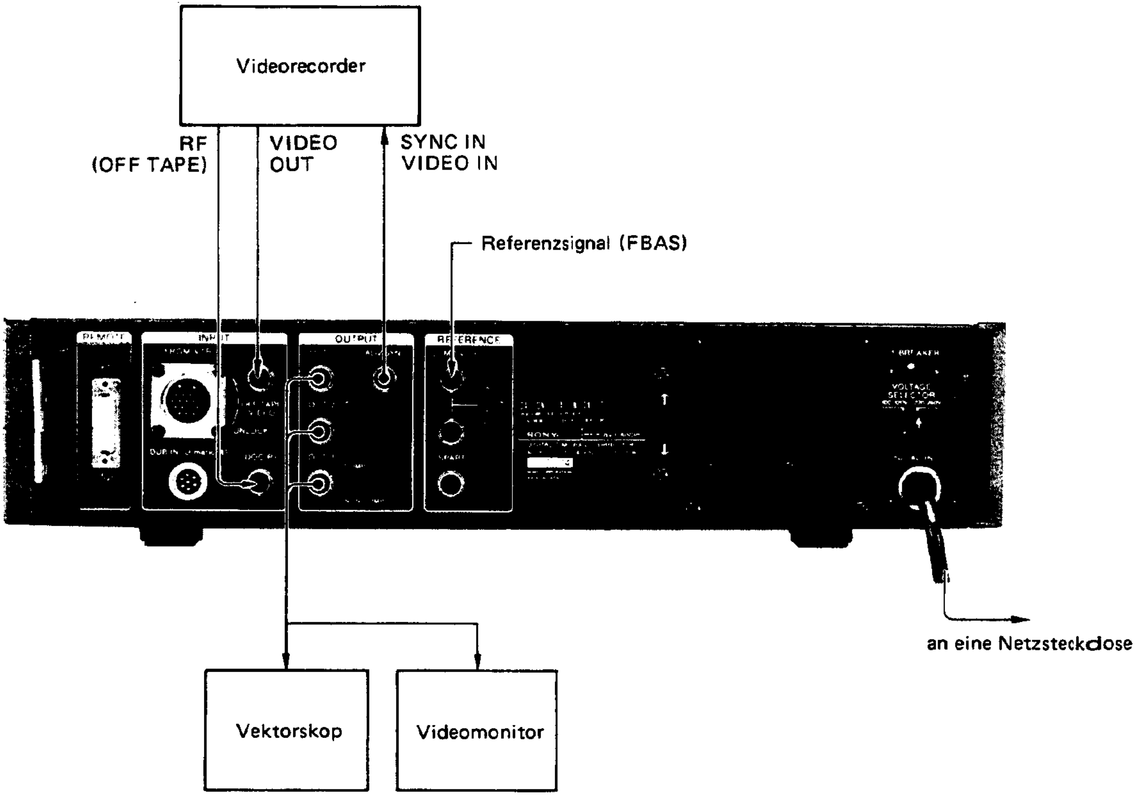

BVT-800PS(P)
DUB
SONY
POWER
BVT 800PS
BVT-800PS(S)

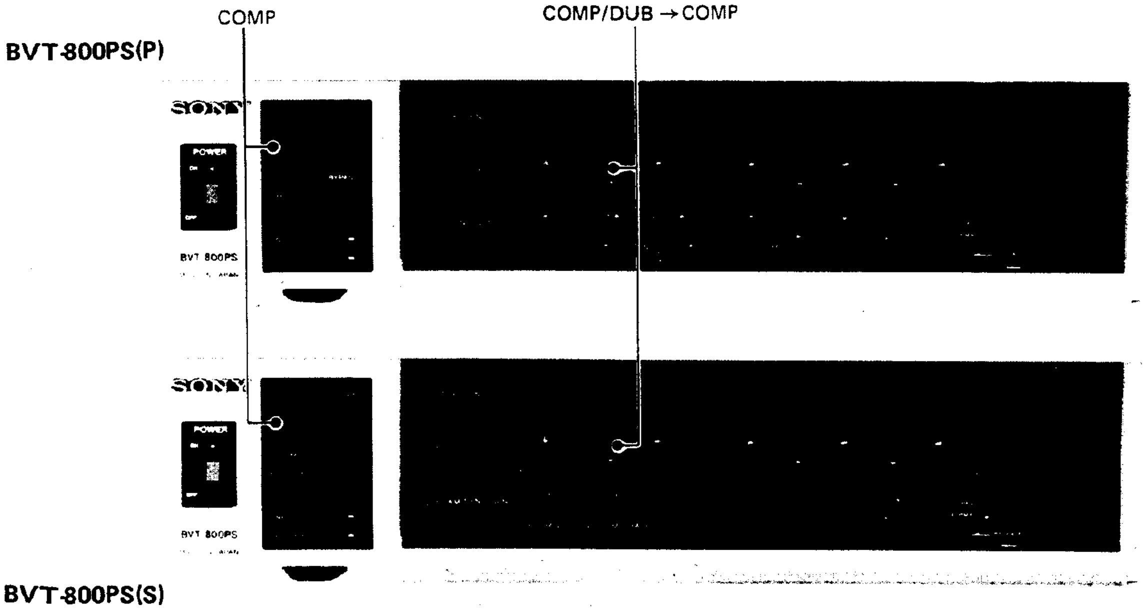
1-3-2. Anschluß eines BVU-200P/BVU-200S


BVU-200P/BVU-200S
DUB OUT
RF (OFF TAPE)
SYNC IN
Refenzsignal (FBAS)
Auf ON stellen, wenn der durchgeschleifte Ausgang nicht verwendet wird.
REMOTE
INPUT
OUTPUT
REFERENCE
an eine Netzsteckdose
Vektorskop
Videomonitor


DUB
COMP/DUB → DUB
BVT-800PS(P)
POWER
BVT-800PS
BVT-800PS(S)

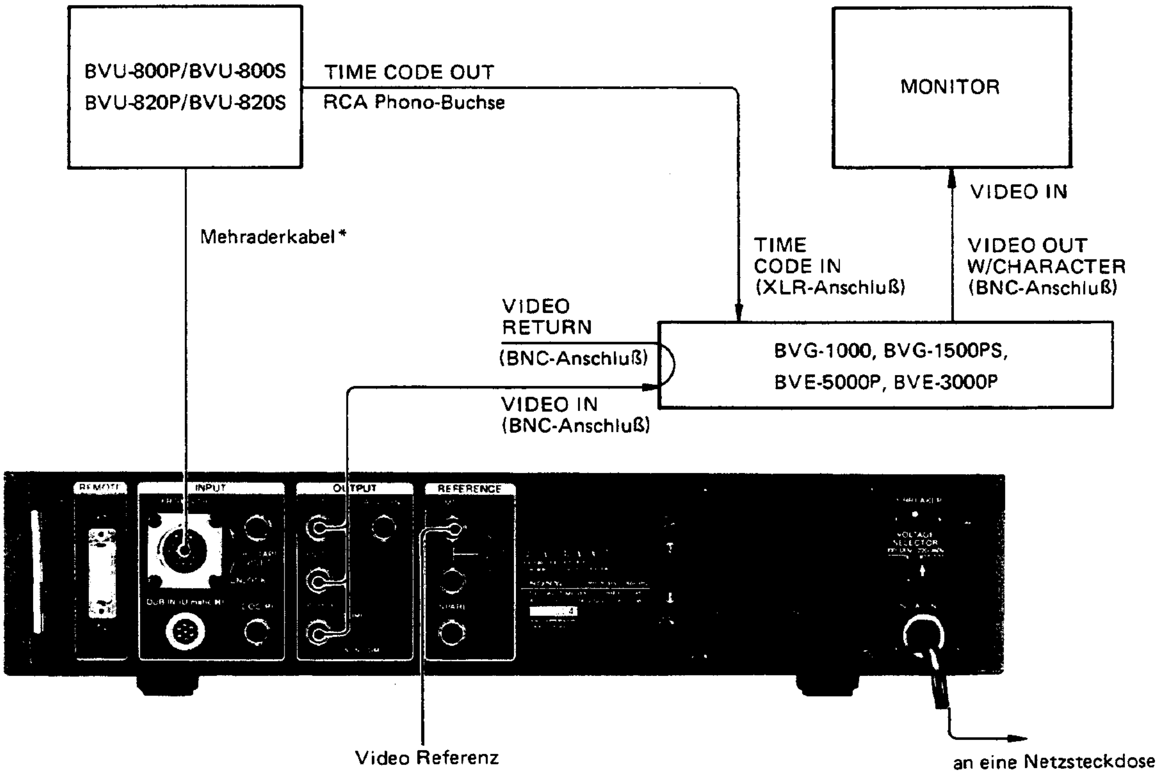
1-3-3. Anschluß eines Videorecorders, der nicht zur BVU-Serie gehört und kein Capstan-Servosystem besitzt


Videorecorder
RF
(OFF TAPE)
VIDEO
OUT
SYNC IN
VIDEO IN
Referenzsignal (FBAS)
an eine Netzsteckdose
Vektorskop
Videomonitor


COMP
COMP/DUB → COMP
BVT-800PS(P)
BVT-800PS(S)

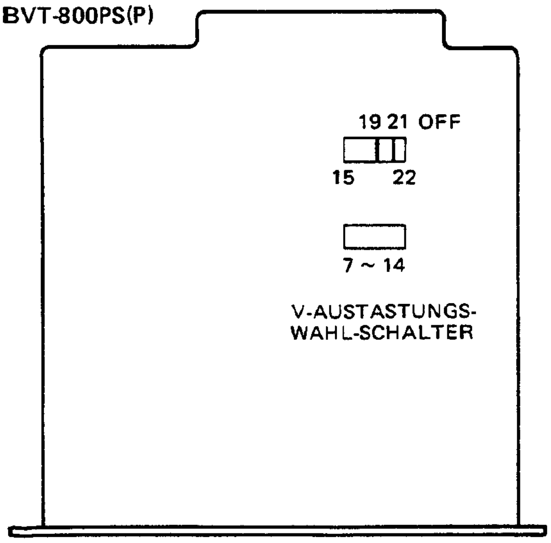
1-3-4. Anschluss für die Benützung des VITC (Vertical Interval Time Code)

Schliessen Sie einen BVU-800P, BVU-800S, BVU-820P oder BVU-820S und einen BVG-1500PS, BVG-1000, BVE-5000P oder BVE-3000 an.

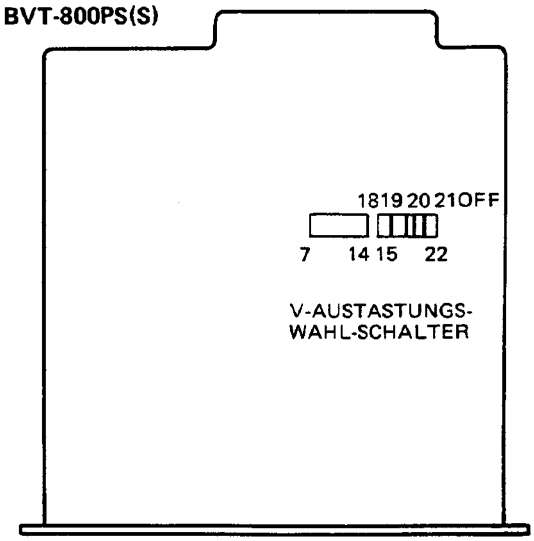

BVU-800P/BVU-800S
BVU-820P/BVU-820S
TIME CODE OUT
RCA Phono-Buchse
MONITOR
VIDEO IN
Mehraderkabel*
TIME
CODE IN
(XLR-Anschluß)
VIDEO OUT
W/CHARACTER
(BNC-Anschluß)
VIDEO
RETURN
(BNC-Anschluß)
BVG-1000, BVG-1500PS,
BVE-5000P, BVE-3000P
VIDEO IN
(BNC-Anschluß)
REMOTE
INPUT
OUTPUT
REFERENCE
Video Referenz
an eine Netzsteckdose

* Wenn ein Videorecorder der Serie BVU-200 gebraucht wird, beziehen Sie sich auf 1-3-2.

Bei Gebrauch des VITC, sich vergewissern dass die V-Austastungsschalter für die Zeilen 19 und 21 beim PAL-Modell oder für die Zeilen 18, 19, 20 und 21 beim SECAM-Modell ausgeschaltet sind.


BVT-800PS(P)
19 21 OFF
15 22
7 ~ 14
V-AUSTASTUNGS-
WAHL-SCHALTER

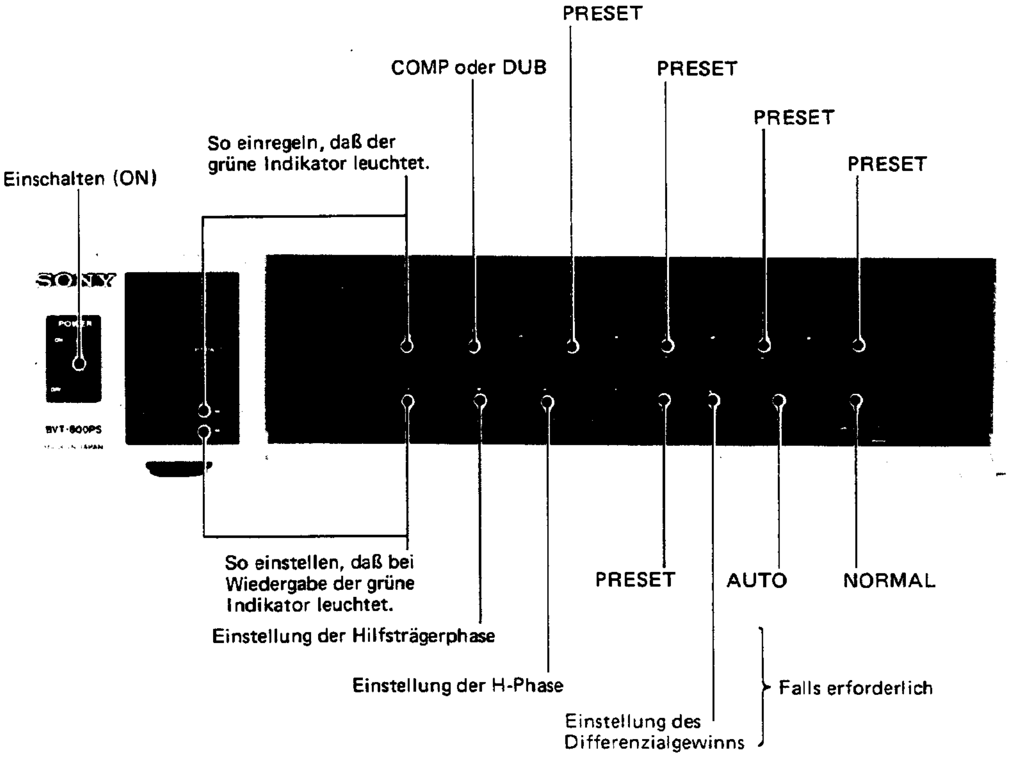
PAL Sync-Generatortafel


BVT-800PS(S)
18 19 20 21 OFF
7 14 15 22
V-AUSTASTUNGS-
WAHL-SCHALTER

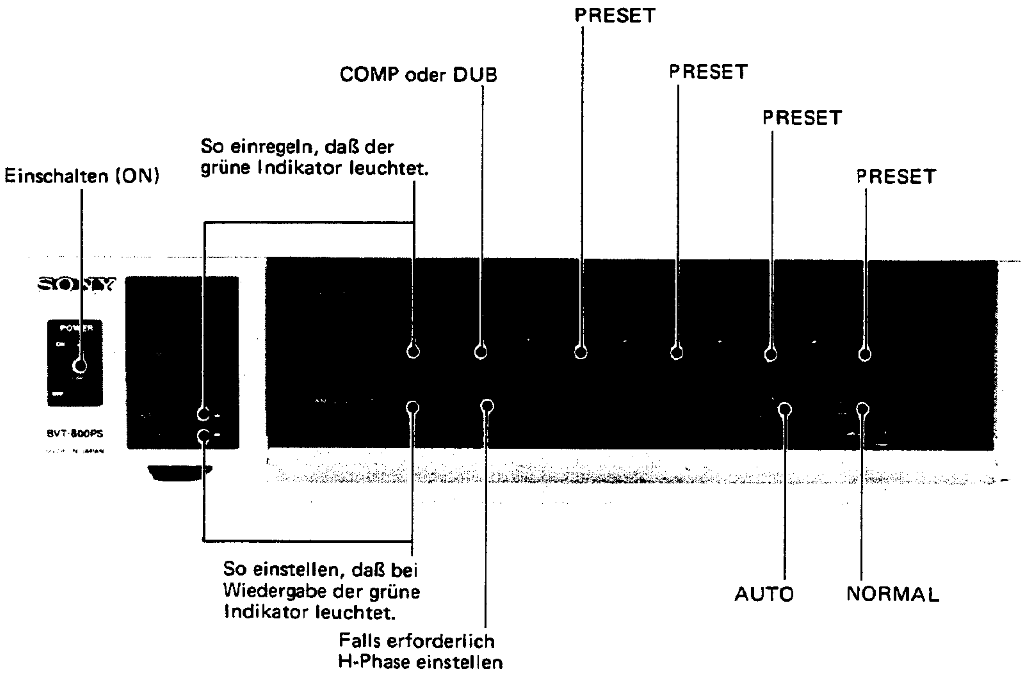
SECAM Sync-Generatortafel

1-3-5. Normaleinstellung

BVT-800PS(P), PAL-Modell


PRESET
COMP oder DUB
PRESET
PRESET
PRESET
So einregeln, daß der grüne Indikator leuchtet.
Einschalten (ON)
SONY
POWER
BVT-800PS
So einstellen, daß bei Wiedergabe der grüne Indikator leuchtet.
Einstellung der Hilfsträgerphase
Einstellung der H-Phase
PRESET
AUTO
NORMAL
Einstellung des Differenzialgewinns
Falls erforderlich

BVT-800PS(S), SECAM-Modell


PRESET
COMP oder DUB
PRESET
PRESET
So einregeln, daß der grüne Indikator leuchtet.
Einschalten (ON)
PRESET
SONY
POWER
BVT-800PS
So einstellen, daß bei Wiedergabe der grüne Indikator leuchtet.
Falls erforderlich H-Phase einstellen
AUTO
NORMAL

1-4. TECHNISCHE DATEN

Allgemeine Daten

Spannungsversorgung	100 – 120 V (90 – 132 V)/220 – 240 V (198 – 264 V) Wechselspannung einstellbar, 50/60 Hz (48 – 62 Hz)
Leistungsaufnahme	100 W
Betriebstemperatur	0°C bis 40°C
Anfbewahrungstemperatur	−10°C bis +60°C
Feuchtigkeit	10% – 90% (nicht kondensiert)
Abmessungen	424 x 88 x 515 mm (B/H/T)
Gewicht	13 kg

Mitgeliefertes Zubehör

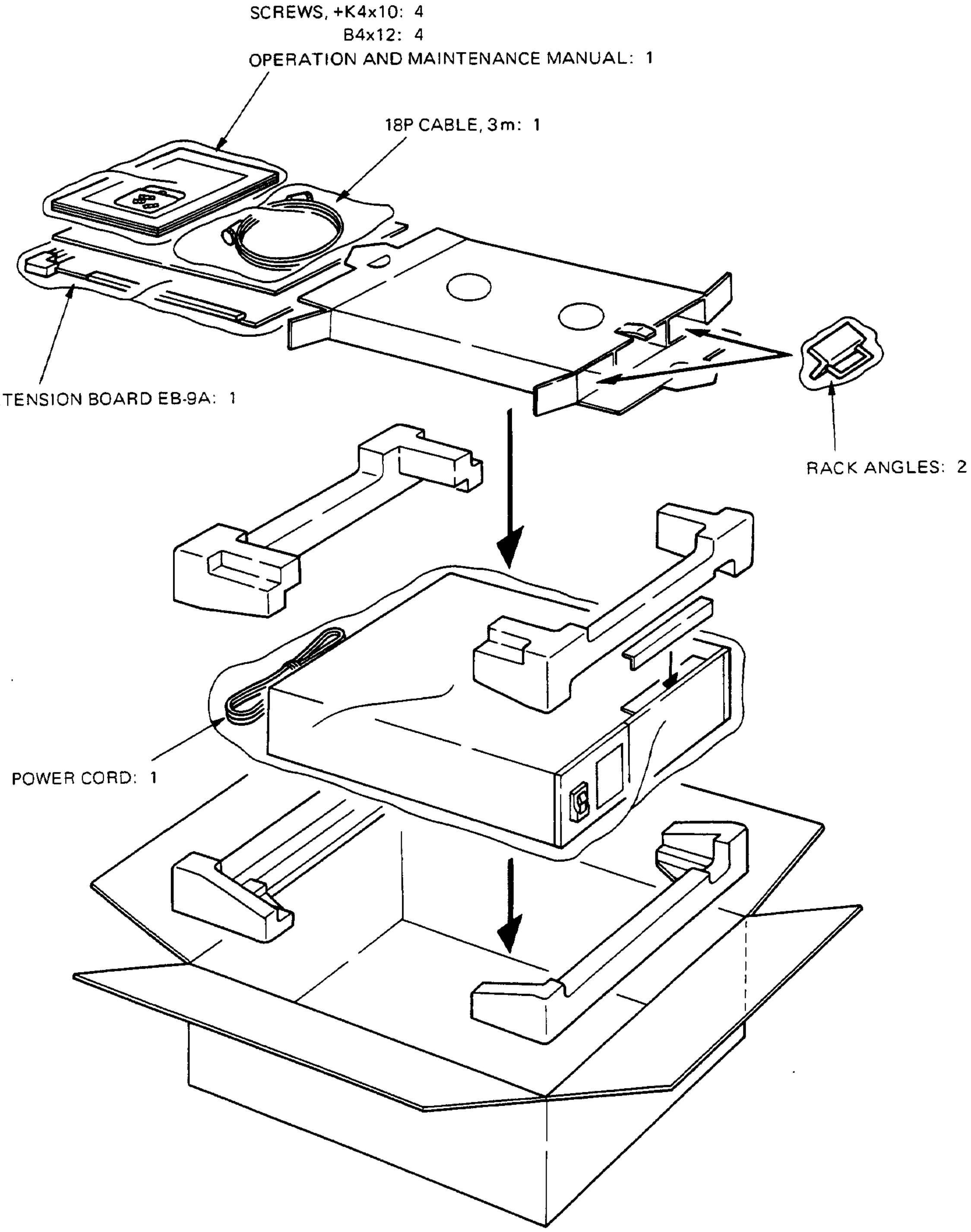
Verlängerungsleiterplatte EB-9 x1
Gestellmontagesatz x1
(Griff x2, Schraube B4x12 x4, Schraube K4x10 x4)
Mehradriges Kabel x1
Bedienungs- und Wartungsanleitung x1

Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

		BVT-800PS(P) PAL	BVT-800PS(S) SECAM
Video	Bandbreite COMP IN	Y: 2,5 MHz ±0,4 dB, 3,25 MHz −3 dB C: ±0.7 MHz −3 dB	Y: 2,5 MHz ±0,4 dB, 3,25 MHz −3 dB C: ±0,5 MHz −3 dB
	DUB IN	Y: 3,5 MHz ±0,4 dB, 4,3 MHz −3 dB C: ±0,75 MHz −3 dB	Y: 3,5 MHz ±0,4 dB, 4,3 MHz −3 dB C: ±0,5 MHz −3 dB
	Signal-Rauschabstand	55 dB	55 dB
	DG	2%	—
	DP	2°	—
	K-Factor (2T-Impuls) COMP IN	4%	4%
	DUB IN	2%	2%
	Chroma/Luminanz-Verzögerung	10 nsec	10 nsec
	Korrekturbereich	29 H(s-s)	29 H(s-s)
	Restfehler	Farbe: ±2,5 nsec Schwarzweiß: ±15 nsec	±15 nsec
Eingangssignal	Band-Videosignal	FBAS 1,0 V(s-s) ±3 dB (einstellbar), 75 Ohm	
	DUB IN	Luminanz: 0,5 V(s-s) ±3 dB (einstellbar), 75 Ohm Chroma: 0,5 V(s-s), 75 Ohm	
	DOC-Referenzsignal	0,5 V ±6 dB, 75 Ohm	
	Referenz-FBAS-Signal	1,0 V(s-s) ±3 dB, 75 Ohm (ein-/ausschaltbar)	
Ausgangssignal	Voreilende Synchronisation	2,2 V ±0,3 V, 75 Ohm	
	Videoausgang	1: 1,0 V(s-s) 2: 1,0 V(s-s) 3: 1,0 V(s-s)/0,7 V(s-s) (FBA-Signal)	
Regler	Videopegel	±3 dB	±3 dB (nur Luminanz)
	Chromapegel	±3 dB	±3 dB
	Schwarzpegel	0 – 0,11 V	0 – 0,11 V
	Burst/Chroma-Phase	±15°	—
	DG-Kompensation	±20%	—
	System-Sync-Phase	−1 bis +3 µsec	−1 bis +3 µsec
	System-HT-Phase	größer als 180°	—
	Y/C-Verzögerung	±150 nsec	±150 nsec

SECTION 2
INSTALLATION

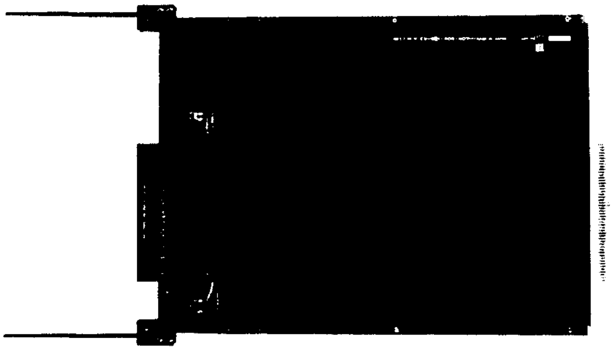
2-1. UNPACKING AND REPACKING


SCREWS, +K4x10: 4
B4x12: 4
OPERATION AND MAINTENANCE MANUAL: 1
18P CABLE, 3m: 1
EXTENSION BOARD EB-9A: 1
RACK ANGLES: 2
POWER CORD: 1

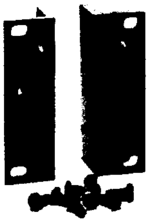
2-2. ACCESSORIES

2-2-1. Accessories Supplied

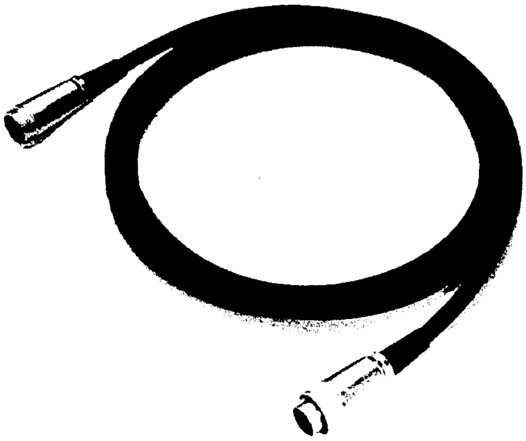
Extension Board EB-9A: 1
Used for checking and repairing the plug-in boards.



Rack Angles: 2
Screws, B4x12: 4
+K4x10: 4
One set of rack angles and screws is necessary for rack mounting.



18P Cable: 1
3 meter long 18P multi-core cable for connection of BVT-800PS and VTR.



Operation and Maintenance Manual: 1

2-2-2. Optional Accessories

SONY PAL Sync Generator Board BKT-801; 1 pc
This board is same as SG-67 board that is used in the BVT-800PS for PAL. When altering the BVT-800PS for SECAM to PAL, replace SG-68 board with BKT-801 i.e. SG-67 board.
SONY SECAM Sync Generator Board BKT-802; 1 pc
This board is same as SG-68 board that is used in the BVT-800PS for SECAM. When altering the BVT-800PS for PAL to SECAM, replace SG-67 board with BKT-802 i.e. SG-68 board.
SONY Remote Control Unit BK-2007; 1 pc

Sliding Rails for Rack Mounting: 1 pair
ACCURIDE Model 203
Brackets for Rack Mounting: 4
ACCURIDE #5507-2
Rails and brackets for mounting BVT-800PS to the rack.
The above parts should be ordered directly from the manufacturer:

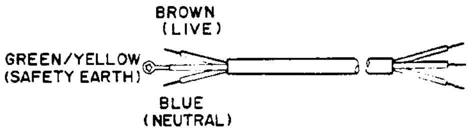
STANDARD PRECISION INC.
12311 S, SHOEMAKER AVENUE SANTA
FE SPRINGS, CALIFORNIA 90670
TEL (213) 944-6236

2-3. MATCHING CONNECTOR AND CABLE

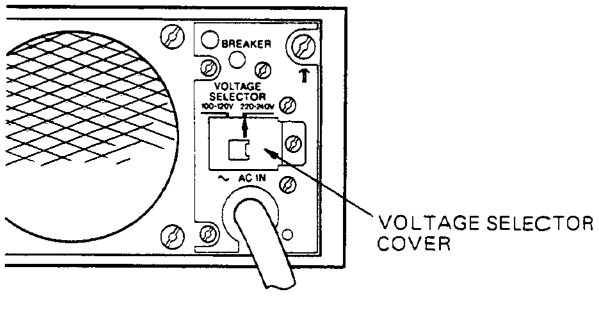
VTR Connector
Use 18P multi-core cable supplied (length 3 m) and no other cables.
DUB IN Connector
Use 7-pin VDC-5 cable (length 5 m) or VDC-3 (length 2 m). One cable is supplied with Sony BVU-200P/S and BVU-800/820P/S series VTRs.
REMOTE Connector
Use the 15-pin ribbon cable supplied with SONY Remote Control Unit BK-2007.
Other connectors are all BNC type.

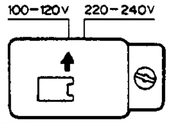
2-4. POWER REQUIREMENTS

Power Line Voltage	AC100-120/220-240 V switchable
100-120 V mode	AC90 to 132 V
220-240 V mode	AC198 to 264 V
Power Line Frequency	48 to 62 Hz
Power Consumption	100 W
Power Cable	Approx. 2.5 m in length An AC plug should be locally prepared and mounted.

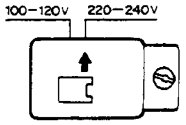


When changing the line voltage, remove the cover, set the voltage selector in accordance with the power line voltage to be used and place the cover.





FOR AC 100 to 120V



FOR AC 220 to 240V

2-5. INSTALLATION CONDITIONS

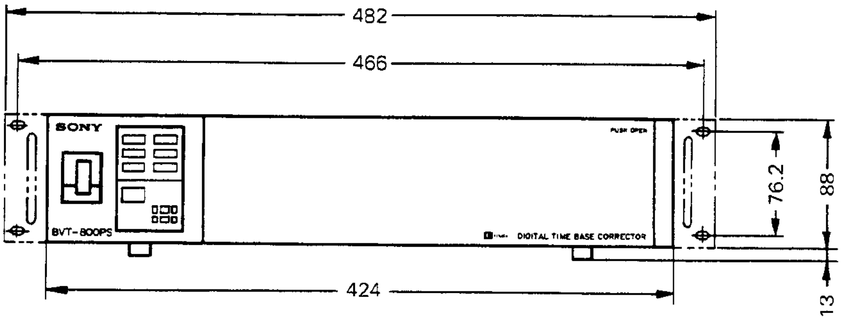
Operating Condition	Temperature 0 to +40°C Humidity 10 to 90% (noncondensing)
Storage Condition	Temperature −10 to +60°C Humidity 10 to 90%

Do not install in the following types of location.

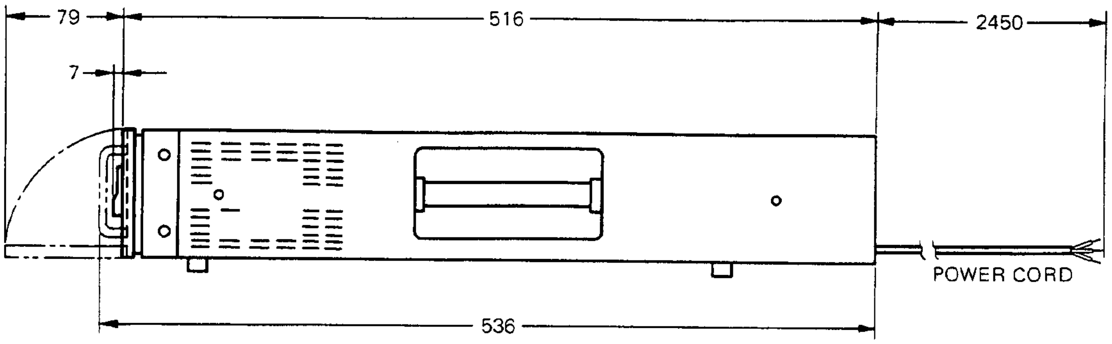
1. Dusty places
2. Places subjected to vibration
3. Places exposed to strong magnetic or electric fields
4. Places exposed directly to sun light or powerful light

2-6. INSTALLATION SPACE

Front

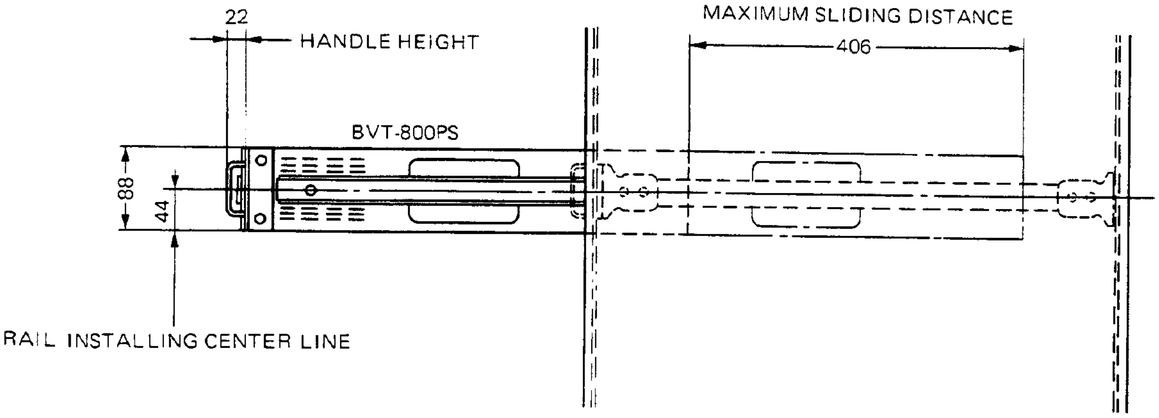

482
466
SONY
BVT-800PS
PUSH OPEN
DIGITAL TIME BASE CORRECTOR
76.2
88
424
13

Right Side


79
516
2450
7
POWER CORD
536

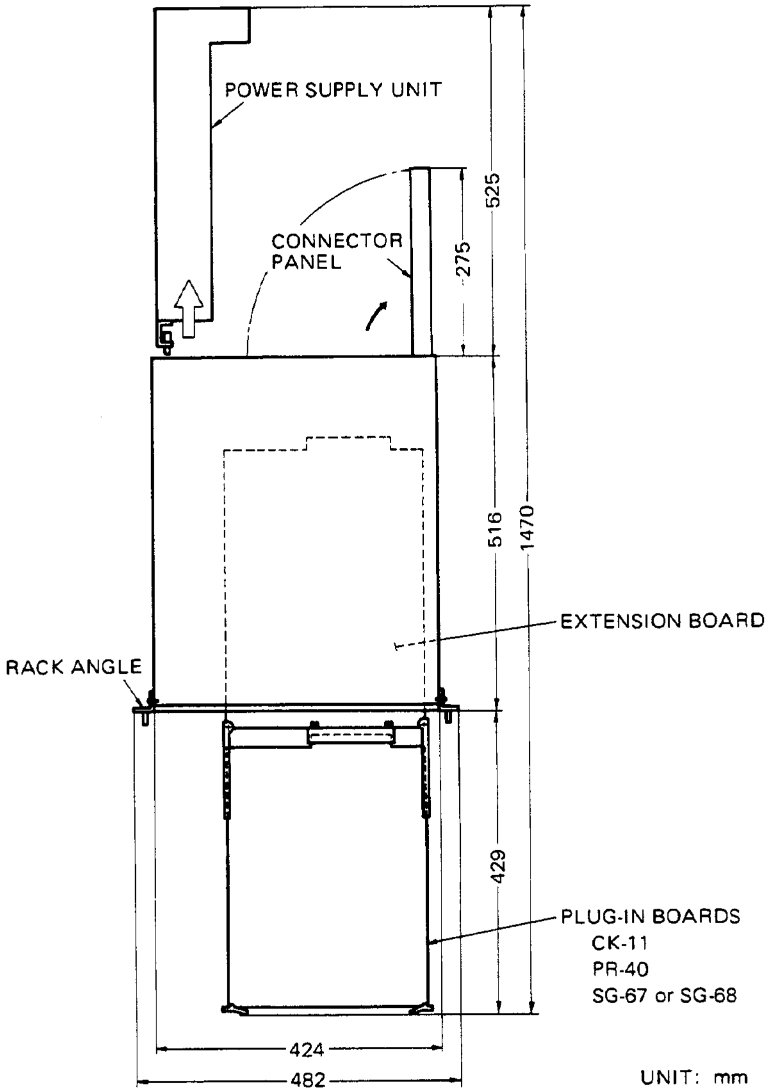
UNIT: mm

Rack Mounting


22
HANDLE HEIGHT
MAXIMUM SLIDING DISTANCE
406
BVT-800PS
88
44
RAIL INSTALLING CENTER LINE

UNIT: mm

Working Space


POWER SUPPLY UNIT
CONNECTOR PANEL
525
275
516
1470
EXTENSION BOARD
RACK ANGLE
429
PLUG-IN BOARDS
CK-11
PR-40
SG-67 or SG-68
424
482
UNIT: mm

2-7. RACK MOUNTING

Parts to be prepared

Slide Rails for Rack Mounting: 1 pair
(consisting of two inner members and two outer members)
ACCURIDE Model 203, length 22" (559 mm)

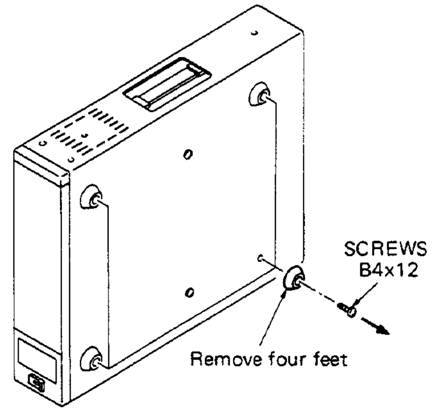
Brackets for Rack Mounting: 4
ACCURIDE #5507-2

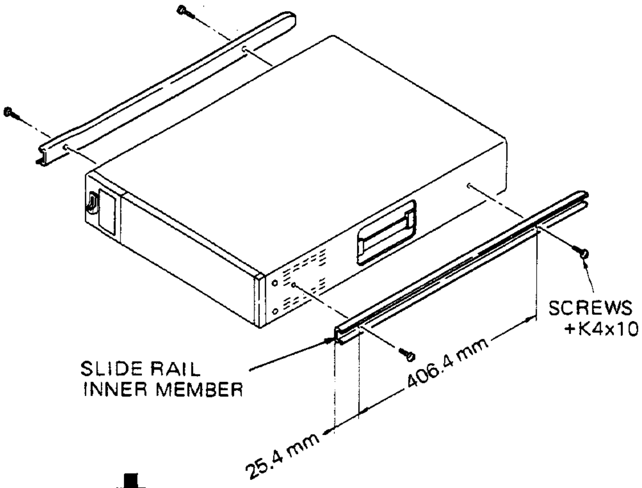
Slide Rail/Inner Member Connecting Screws: 4
Accessory supplied +K4x10

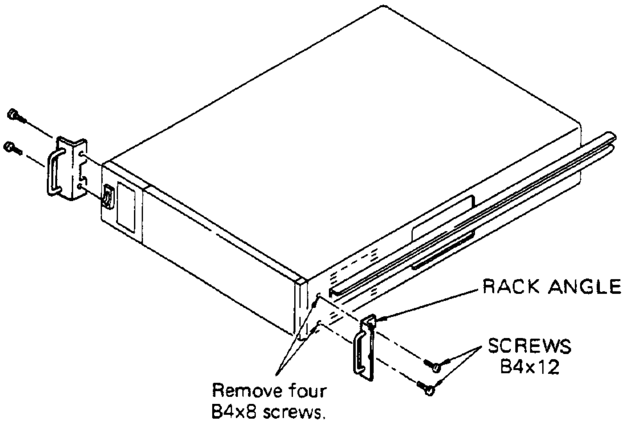
Rack Angles: 2
Accessory supplied

Rack Angle Mounting Screws: 4
Accessory supplied B4x12

Rack Mounting Procedure

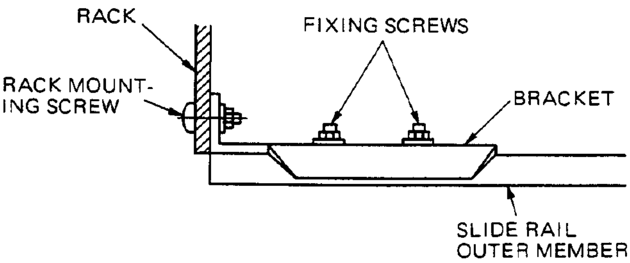

SCREWS
B4x12
Remove four feet


SCREWS
+K4x10
SLIDE RAIL
INNER MEMBER
406.4 mm
25.4 mm

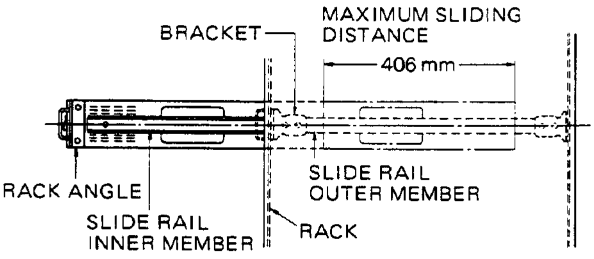

RACK ANGLE
SCREWS
B4x12
Remove four
B4x8 screws.

Connect the bracket to the outer members. Mount this same bracket to the rack and fasten the bracket fixing screws.

Note:
Use the fixing screws and rack mounting screws recommended by the slide rail manufacturer.


RACK
FIXING SCREWS
RACK MOUNTING SCREW
BRACKET
SLIDE RAIL
OUTER MEMBER

Mount the equipment to the rack.


BRACKET
MAXIMUM SLIDING
DISTANCE
406 mm
RACK ANGLE
SLIDE RAIL
OUTER MEMBER
SLIDE RAIL
INNER MEMBER
RACK

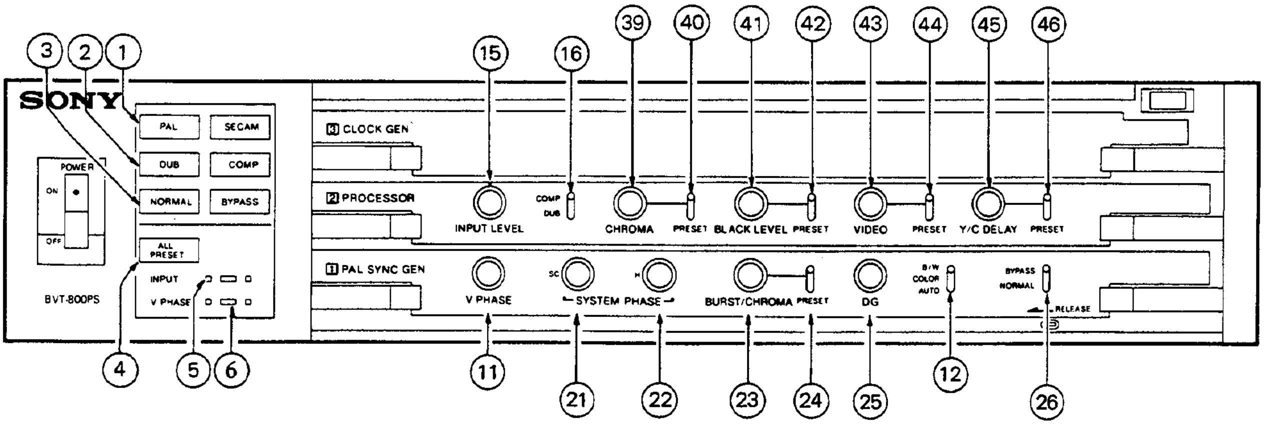
2-8. ALTERING PAL/SECAM SYSTEM

There are two types of BVT-800PS i.e. for PAL and for SECAM. The PAL BVT-800PS is equipped with SG-67 PAL sync generator board and the SECAM BVT-800PS is equipped with SG-68 SECAM sync generator board.
When altering the BVT-800PS to PAL or SECAM, replace the sync generator board. The replacement sync generator board is available in the following model name.

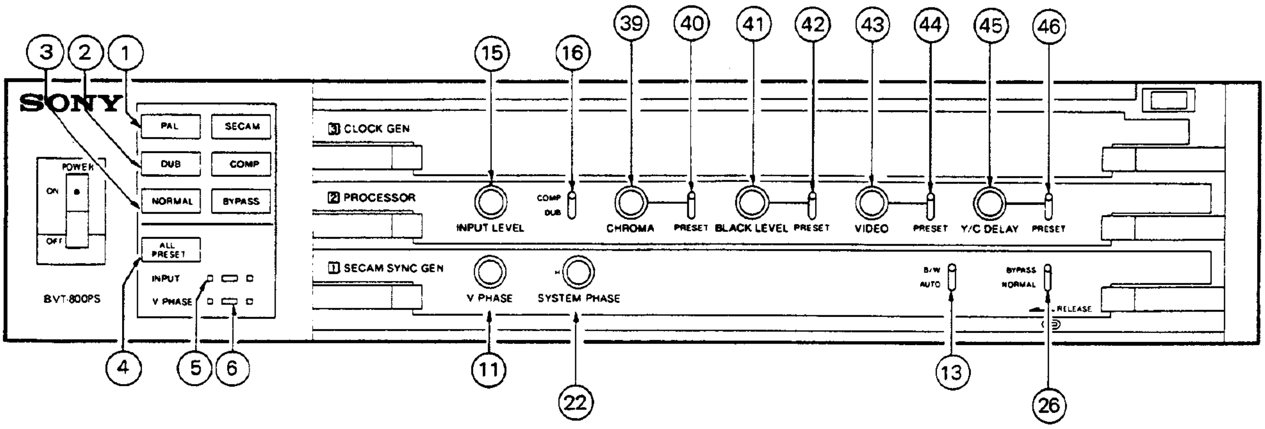
BKT-801: SONY PAL Sync Generator Board
(SG-67 board)
BKT-802: SONY SECAM Sync Generator Board
(SG-68 board)

2-9. SWITCH AND CONTROL SETTING

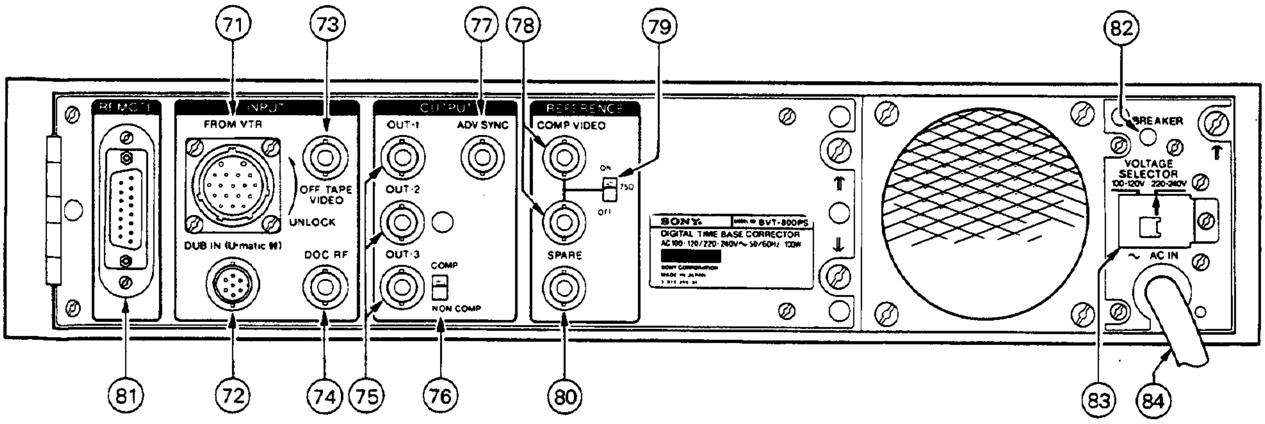
FRONT PANEL: for PAL model


3
2
1
15
16
39
40
41
42
43
44
45
46
SONY
PAL
SECAM
DUB
COMP
NORMAL
BYPASS
ALL PRESET
INPUT
V PHASE
POWER
ON
OFF
BVT-800PS
3 CLOCK GEN
2 PROCESSOR
INPUT LEVEL
COMP
DUB
CHROMA
PRESET
BLACK LEVEL
PRESET
VIDEO
PRESET
Y/C DELAY
PRESET
1 PAL SYNC GEN
V PHASE
SC
H
SYSTEM PHASE
BURST/CHROMA
PRESET
DG
B/W
COLOR
AUTO
BYPASS
NORMAL
RELEASE
4
5
6
11
21
22
23
24
25
12
26

FRONT PANEL: for SECAM model


3
2
1
15
16
39
40
41
42
43
44
45
46
SONY
PAL
SECAM
DUB
COMP
NORMAL
BYPASS
ALL PRESET
INPUT
V PHASE
POWER
ON
OFF
BVT-800PS
3 CLOCK GEN
2 PROCESSOR
INPUT LEVEL
COMP
DUB
CHROMA
PRESET
BLACK LEVEL
PRESET
VIDEO
PRESET
Y/C DELAY
PRESET
1 SECAM SYNC GEN
V PHASE
H
SYSTEM PHASE
B/W
AUTO
BYPASS
NORMAL
RELEASE
4
5
6
11
22
13
26

REAR PANEL


71
73
77
78
79
82
REMOTE
INPUT
FROM VTR
OFF TAPE VIDEO
UNLOCK
DUB IN (U-matic H)
DOC RF
OUTPUT
OUT-1
ADV SYNC
OUT-2
OUT-3
COMP
NON COMP
REFERENCE
COMP VIDEO
ON
75Ω
OFF
SPARE
SONY BVT-800PS
DIGITAL TIME BASE CORRECTOR
BREAKER
VOLTAGE SELECTOR
100-120V 220-240V
~ AC IN
81
72
74
75
76
80
83
84

Note: The functions of each switch/control are described in the following sections.

① to ⑥ : section 2-9-1. Indicator Panel

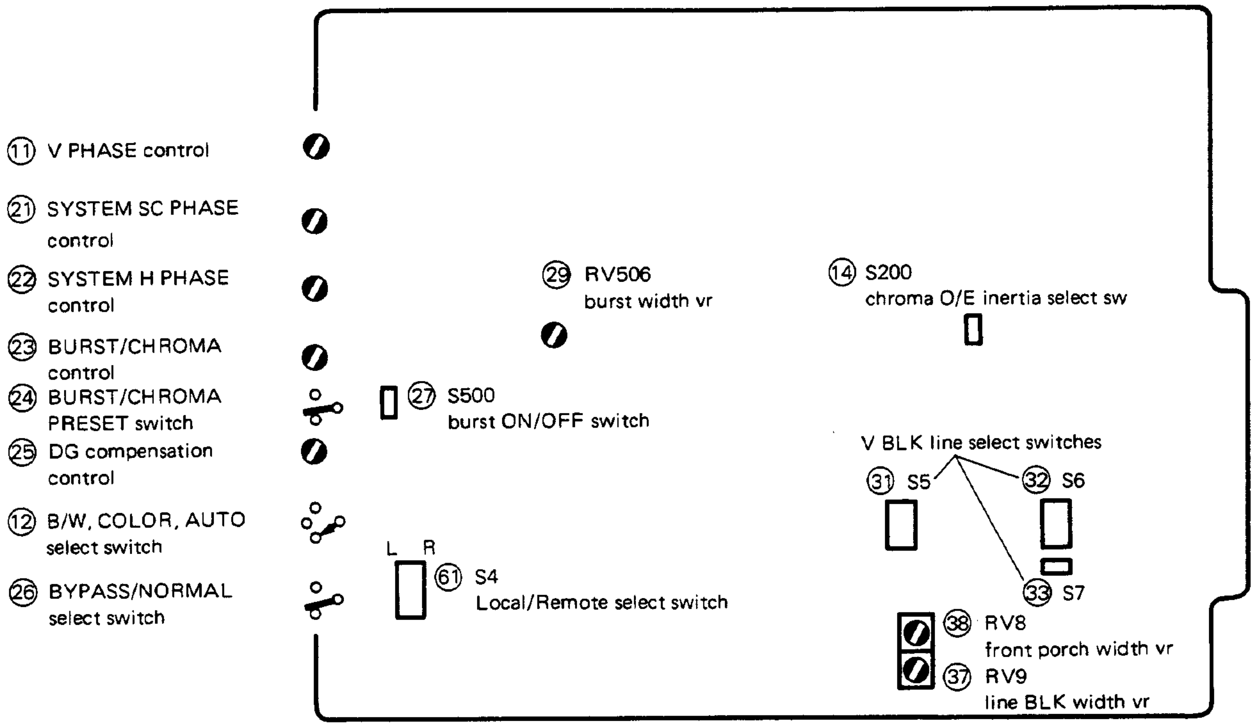
⑪ to ⑰ : section 2-9-2. For Video Input Signal

㉑ to ㊾ : section 2-9-3. For Video Output Signal

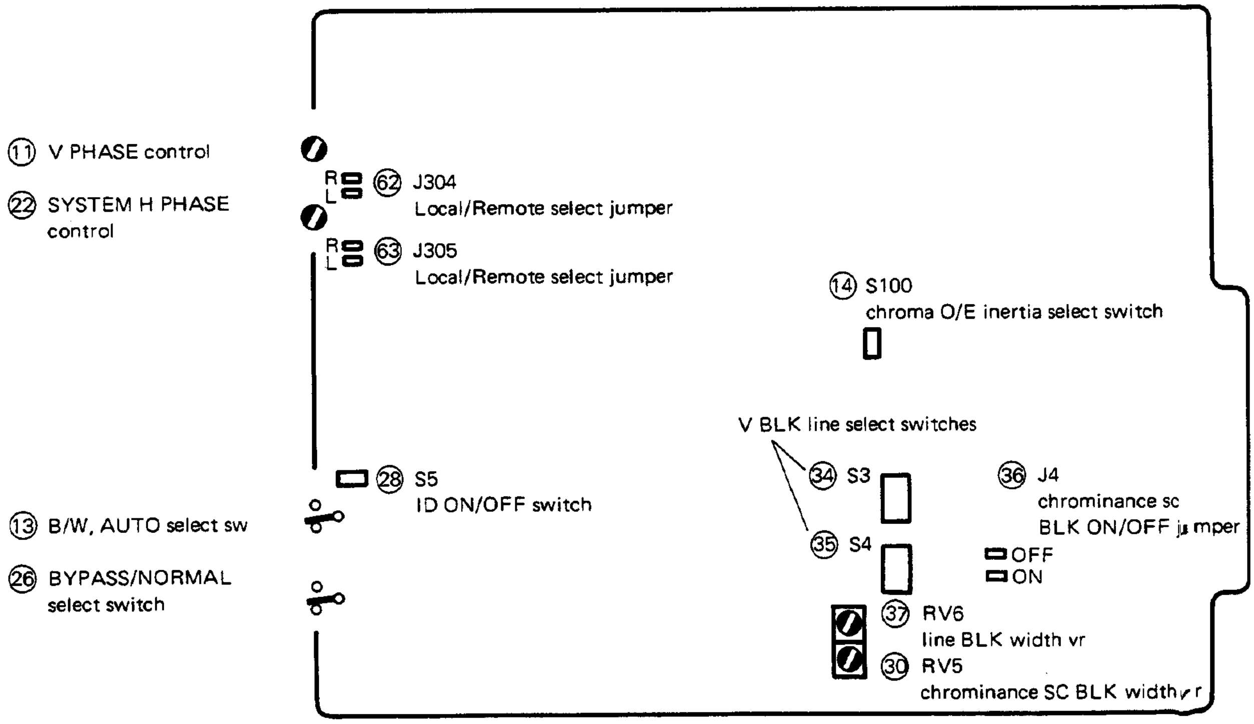
(61) to (64) : section 2-9-4. For Remote Control

(71) to (84) : section 2-9-5. Connector Panel

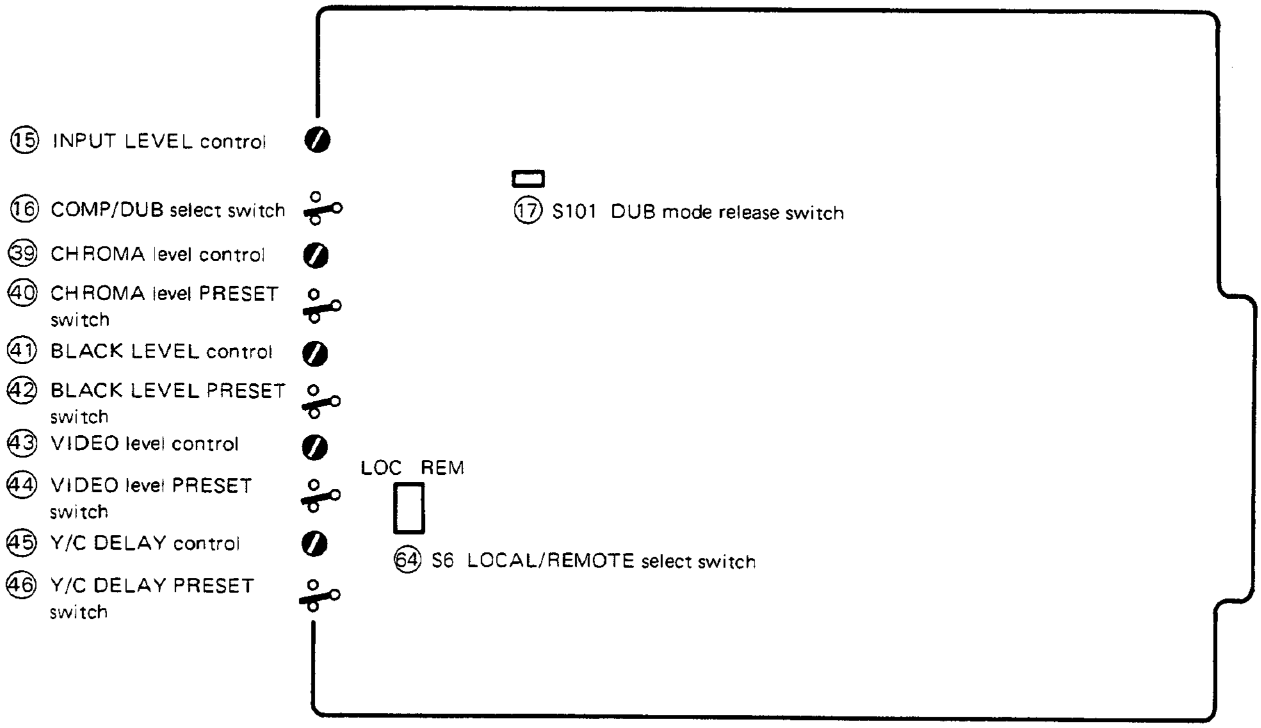
1 PAL SYNC GEN board (SG-67 board: for PAL)


⑪ V PHASE control
㉑ SYSTEM SC PHASE control
㉒ SYSTEM H PHASE control
㉓ BURST/CHROMA control
㉔ BURST/CHROMA PRESET switch
㉕ DG compensation control
⑫ B/W, COLOR, AUTO select switch
㉖ BYPASS/NORMAL select switch
㉙ RV506 burst width vr
㉗ S500 burst ON/OFF switch
L R
(61) S4 Local/Remote select switch
⑭ S200 chroma O/E inertia select sw
V BLK line select switches
㉛ S5
㉜ S6
㉝ S7
㊳ RV8 front porch width vr
㊲ RV9 line BLK width vr

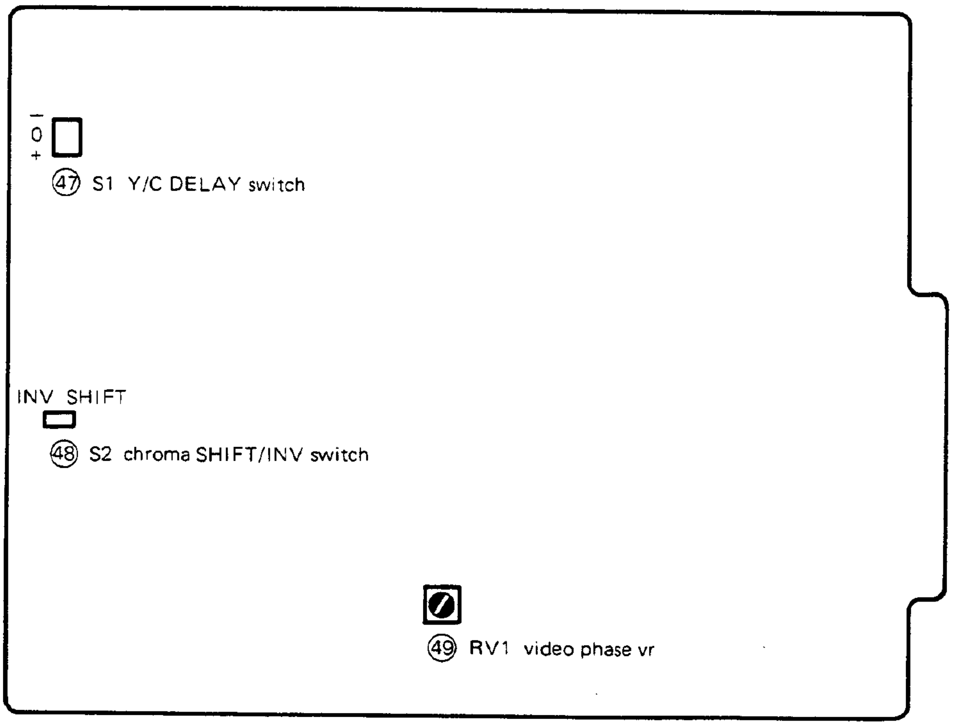
1 SECAM SYNC GEN board (SG-68 board: for SECAM)


⑪ V PHASE control
㉒ SYSTEM H PHASE control
R L
(62) J304 Local/Remote select jumper
R L
(63) J305 Local/Remote select jumper
⑭ S100 chroma O/E inertia select switch
㉘ S5 ID ON/OFF switch
⑬ B/W, AUTO select sw
㉖ BYPASS/NORMAL select switch
V BLK line select switches
㉞ S3
㉟ S4
㊱ J4 chrominance sc BLK ON/OFF jumper
OFF
ON
㊲ RV6 line BLK width vr
㉚ RV5 chrominance SC BLK width vr

2 PROCESSOR board (PR-40 board)


⑮ INPUT LEVEL control
⑯ COMP/DUB select switch
㊴ CHROMA level control
㊵ CHROMA level PRESET switch
㊶ BLACK LEVEL control
㊷ BLACK LEVEL PRESET switch
㊸ VIDEO level control
㊹ VIDEO level PRESET switch
㊺ Y/C DELAY control
㊻ Y/C DELAY PRESET switch
⑰ S101 DUB mode release switch
LOC REM
(64) S6 LOCAL/REMOTE select switch

3 CLOCK GEN board (CK-11 board)


−
0
+
㊼ S1 Y/C DELAY switch
INV SHIFT
㊽ S2 chroma SHIFT/INV switch
㊾ RV1 video phase vr

2-9-1. Indicator Panel

① **PAL/SECAM indicators**
PAL or SECAM indicator lights according to the sync generator board SG-67 (for PAL)/SG-68 (for SECAM).

② **DUB/COMP indicators**
DUB or COMP indicator lights according to the TBC operating mode DUB/COMP. See ⑯ COMP/DUB select switch.

③ **NORMAL/BYPASS indicators**
NORMAL or BYPASS indicator lights according to the position of ㉖ BYPASS/NORMAL select switch.

④ **ALL PRESET indicator**
This indicator lights when the following switches on the BVT-800PS are all set to PRESET position.

㉔ BURST CHROMA PRESET switch (for PAL)
㊵ CHROMA level PRESET switch
㊷ BLACK LEVEL PRESET switch
㊹ VIDEO level PRESET switch
㊻ Y/C DELAY PRESET switch

Note: When BVT-800PS is remote-controlled, this indicator has no relation to the manual/preset mode of the remote controller.

⑤ **INPUT indicators**
These indicators show the level of the off tape video input signal. See ⑮ INPUT LEVEL control.

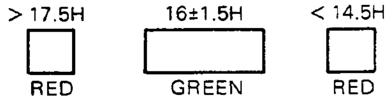
⑥ **V PHASE indicators**
These indicators show whether the off tape video input signal is in advance of the reference signal correctly or not. See ⑪ V PHASE control.

2-9-2. For Video Input Signal

$\boxed{1}$ PAL SYNC GEN board (SG-67 board: for PAL)

$\boxed{1}$ SECAM SYNC GEN board (SG-68 board: for SECAM)

⑪ **V PHASE control**
When the VTR is in the normal playback mode, this adjusts the off tape video signal so that it is in advance of the reference signal by 16H.
⑥ V PHASE indicators show whether the off tape video signal is in advance by 16H or not. The green lamp indicates the correct phase.



Note: When the VTR is in E-E mode, the off tape video signal and the reference signal become in phase; the red lamp indicating 'less than 14.5H' lights.

⑫ **B/W, COLOR, AUTO select switch (for PAL)**
The TBC operates in the color or black & white mode depending on the combination of the off tape video signal contents and this switch. Normally set to AUTO.

B/W: Regardless of whether the input signal is color or B/W, the TBC takes it as a B/W signal.
However, if this switch is set at B/W when the input video signal is color and the TBC is in COMP mode (i.e. not DUB mode: Refer to ⑯ COMP/DUB select switch.) the color of TBC output becomes free.
If this switch is set at B/W when the TBC is in DUB mode, the TBC output has no chrominance signal regardless of whether the input signal is color or B/W.
See the note.

COLOR: Regardless of whether the input signal is color or B/W, the TBC takes it as a color signal.

AUTO: The TBC decides automatically color or B/W depending on the input signal burst level. The signal is judged to be B/W if its burst level is below the reference level (300 mV) by 12+/−3 dB.

(To be continued)

(⑫ B/W AUTO, COLOR select switch: for PAL)

Note: The TBC out burst can be controlled ON/OFF by ㉗ S500 burst ON/OFF switch on SG-67 board. It is set to OFF when shipped from the factory.
When the tape speed of the VTR is +/−x5 or more, BVT-800PS takes the video signal as a B/W signal regardless of other conditions. ㉗ S500 on the SG-67 board is active in this case also.

tape speed of VTR	**video input**	**⑫ B/W COLOR AUTO switch**	**DUB COMP mode**	**㉗ burst ON/OFF switch**	**TBC output**
<±x5	B/W (Y)	B/W or AUTO	X	OFF	B/W without burst (Y)
	color (Y+C+B)	B/W	DUB	OFF	
	B/W (Y)	X	X	ON	B/W with burst (Y+B)
	B/W (Y)	color	X	OFF	
	color (Y+C+B)	B/W	DUB	ON	
	color (Y+C+B)	COLOR or AUTO	X	X	color with burst (Y+C+B)
	color (Y+C+B)	B/W	COMP	OFF	B/W without burst (*) (Y+C)
	color (Y+C+B)	B/W	COMP	ON	color with burst (*) (Y+C+B)
≧±x5	X	X	X	OFF	B/W without burst (Y)
	X	X	X	ON	B/W with burst (Y+B)

Y: luminance signal
C: chrominance signal
B: burst signal
X: irrelevant

(*) The phase of the chrominance signal becomes free.
Not applicable.

⑬ B/W, AUTO select switch (for SECAM)

The TBC operates in the color or black & white mode depending on the combination of the off tape video signal contents and this switch. Normally set to AUTO.

B/W: Regardless of whether the input signal is color or B/W, the TBC takes it as a B/W signal.
However, if this switch is set at B/W when the input video signal is color and the TBC is in COMP mode (i.e. not DUB mode: Refer to ⑯ COMP/DUB select switch.), the color of TBC output becomes free.
If this switch is set at B/W when the TBC is in DUB mode, the TBC output has no chrominance signal regardless of whether the input signal is color or B/W. See the note.

AUTO: The TBC decides automatically color or B/W depending on the input signal line burst level.

Note: The TBC out ID signal can be controlled ON/OFF by ㉘ S5 ID ON/OFF switch on SG-68 board. It is set to ON when shipped from the factory.
The blanking of TBC out chrominance SC signal on lines 7 (320) to 22 (335) can be controlled ON/OFF by ㊱ J4 chrominance SC blanking ON/OFF jumper. It is set to OFF when shipped from the factory.
When the tape speed of the VTR is +/−x5 or more, BVT-800PS takes the video signal as a B/W signal regardless of other conditions. ㉘ S5 ID ON/OFF switch is inactive in this case.

tape speed of VTR	video input	⑬ B/W AUTO switch	DUB COMP mode	㉘ ID ON/OFF switch	㊱ chrominance SC BLK ON/OFF jumper	TBC output
<±x5	B/W (Y)	X	X	X	X	B/W (Y)
	color (Y+C+ID)	B/W	DUB	X	X	
	color (Y+C+ID)	B/W	COMP	X	X	color without ID (*1) (Y+C)
	color (Y+C+ID)	AUTO	X	OFF	ON	color without ID (Y+C)
	color (Y+C+ID)	AUTO	X	OFF	OFF	color with ID (*2) (Y+C+ID)
	color (Y+C+ID)	AUTO	X	ON	X	color with ID (*3) (Y+C+ID)
≧±x5	X	X	X	X	X	B/W (Y)

Y: luminance signal   ID: ID signal
C: chrominance signal   X: irrelevant

(*1) The color becomes free. Not applicable.
(*2) The TBC output ID signal is not replaced in the TBC.
The ID signal of the input ID signal is utilized.
(*3) The TBC output ID signal is replaced with the new one that is generated in the TBC.

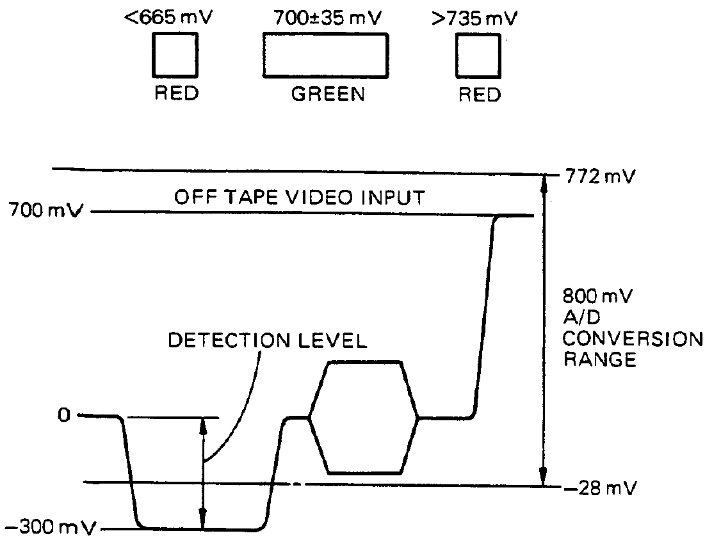
⑭ S200: chroma O/E inertia select switch (for PAL)
⑭ S100: chroma O/E inertia select switch (for SECAM)

BVT-800PS judges the video input chrominance signal odd/even (135°/225° for PAL, D_R'/D_B' for SECAM) by detecting the burst. When missing the burst signal due to dropouts and bad head-to-tape touch, BVT-800PS keeps the last O/E data. If the kept O/E data is different from the new O/E data that is detected from the burst signal which appears again, BVT-800PS utilizes the new data after 16 lines when S200/100 is OFF or after 32 lines when S200/100 is ON.
When the VTR is in BIDIREX mode (i.e. playback by R/P head excepting FWDx1 speed), the TBC operates in "32 lines" regardless of S200/100 ON/OFF.
S200/100 is set at OFF when shipped from the factory.

2 PROCESSOR board (PR-40 board)

⑮ INPUT LEVEL control

Controls the level of the video input signal. The adjusting range is +/−3 dB.
The adjusted level is shown on ⑤ INPUT indicators. The green lamp lights when the level is correct. The indicators show the level of the sync signal portion of the off tape video input as the level of the off tape video signal. In other words, they indicate a sync signal level 300 mV as an off tape video input level 700 mV (without sync).



⑯ COMP/DUB select switch
⑰ S101: DUB mode release switch

In the DUB mode, the TBC processes signals without Y/C-separation, while in the COMP mode, signals are Y/C-separated in the TBC. The DUB mode produces a better picture than the COMP mode.

When the VTR with 18-pin multiple cable for example BVU-800/820P/S is connected to BVT-800PS, the DUB or COMP mode is selected by the mode of the VTR and two switches ⑯ and ⑰ as the following table. The DUB mode release switch is set to ON when shipped from the factory.

mode of VTR	**⑯ COMP/DUB switch**	**⑰ DUB mode release sw**	**mode of BVT-800PS**
SECAM or PAL normal play	DUB	ON	DUB
	COMP	ON	DUB
	DUB	OFF	DUB
	COMP	OFF	COMP
PAL DT play or PAL simultaneous play in recording	irrelevant	irrelevant	COMP

When Sony BVU-200P or 200S is connected with 7-pin VDC cable, the DUB mode should be selected by the COMP/DUB select switch.
When the VTR is except the above-mentioned type, even though it is equipped with a DUB OUT connector, the off tape video signal must be inputted to BVT-800PS BNC connector and the COMP mode must be selected by the COMP/DUB select switch.
② DUB or COMP indicator lights according to the DUB or COMP mode.

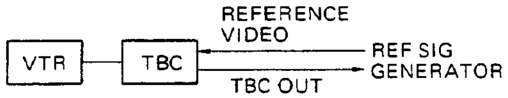
2-9-3. For Video Output Signal

1 PAL SYNC GEN board (SG-67 board: for PAL)

1 SECAM SYNC GEN board (SG-68 board: for SECAM)

㉑ **SYSTEM SC PHASE control (for PAL)**
㉒ **SYSTEM H PHASE control**

These two controls are used for correcting the delay of sync and SC (burst) due to the cable between the reference signal generator and the TBC. It is used, for example, when it is required to equalize the TBC output sync and SC (burst) phase to the reference signal phase by sending the TBC output back to the reference signal generator.



SYSTEM H PHASE can be adjusted in the range of −1 to +3 µs. SYSTEM SC PHASE control has the adjustable range of 360° so as to be able to adjust any phase to the reference. The SYSTEM SC PHASE control does not affect the H PHASE.

㉓ **BURST/CHROMA control (for PAL)**
㉔ **BURST/CHROMA PRESET switch (for PAL)**

manual: The output signal chroma phase against the burst signal is adjustable by the BURST/CHROMA control within the range of +/−15°. The phase relationship between the reference video signal burst and the TBC output signal burst is not affected by rotating the BURST/CHROMA control.

PRESET: Irrespective of the BURST/CHROMA control position, the output signal chroma phase against the burst signal becomes identical to the one of the video input signal.

㉕ **DG compensation control (for PAL)**
The TBC output DG can be compensated by this control within the range of +/−20%. DG compensation is 0 in the mechanical center.

㉖ **BYPASS/NORMAL select switch**

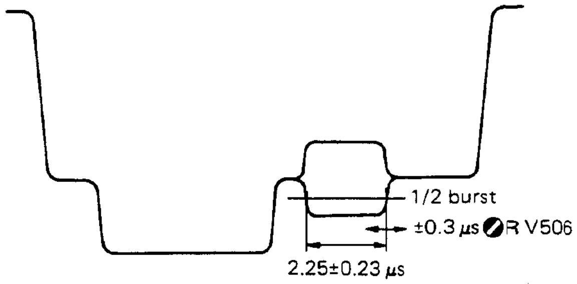
BYPASS: The bypassed output appears at the TBC output and ③ BYPASS indicator lights. When the 7-pin VDC cable is connected, the off tape video signal for the bypassed output is fed from the OFF TAPE VIDEO IN BNC connector.
In the BYPASS mode, the sync signal of VIDEO OUT 3 is not controlled ON/OFF by (76) COMP/NON COMP select switch.
When the TBC power is OFF, the BYPASS output goes off too.

NORMAL: The time base corrected output with the shaped sync and burst signals appears at TBC output and ③ NORMAL indicator lights.

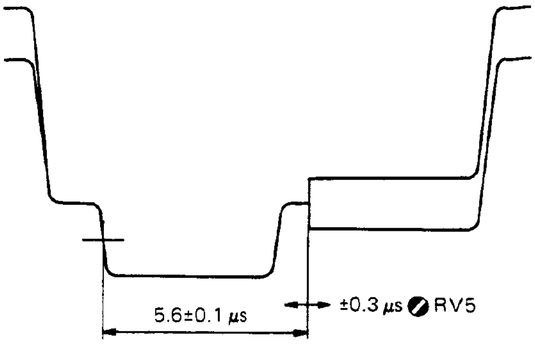
㉗ **S500: burst ON/OFF switch (for PAL)**
See ⑫ B/W, COLOR, AUTO select switch.

㉘ **S5: ID ON/OFF switch (for SECAM)**
See ⑬ B/W, AUTO select switch.

㉙ **RV506: burst width vr (for PAL)**
The TBC output signal burst width is varied approximately +/−0.3 µs by this vr. The burst width is set to 2.25+/−0.23 µs when shipped from the factory.

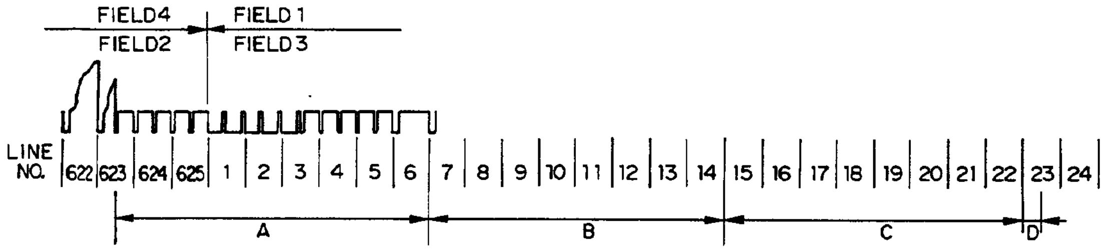


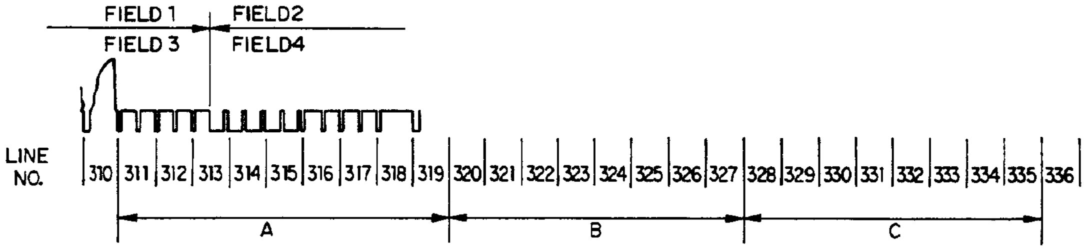
㉚ **RV5: chrominance SC BLKG width vr (for SECAM)**
The chrominance signal blanking width of the TBC output can be varied approximately +/−0.3 µs. The blanking width is set to 5.6+/−0.1 µs when shipped from the factory.



㉛ S5:
㉜ S6: **V blanking line select switches (for PAL)**
㉝ S7:

The blanking of any line up to lines 7(320) – 23(335) of the TBC output signal can be turned ON/OFF.


FIELD4
FIELD1
FIELD2
FIELD3
LINE NO.
622
623
624
625
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
A
B
C
D

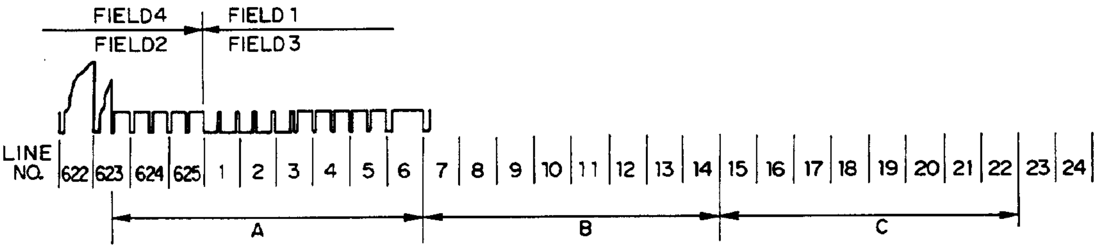

FIELD1
FIELD2
FIELD3
FIELD4
LINE NO.
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
A
B
C

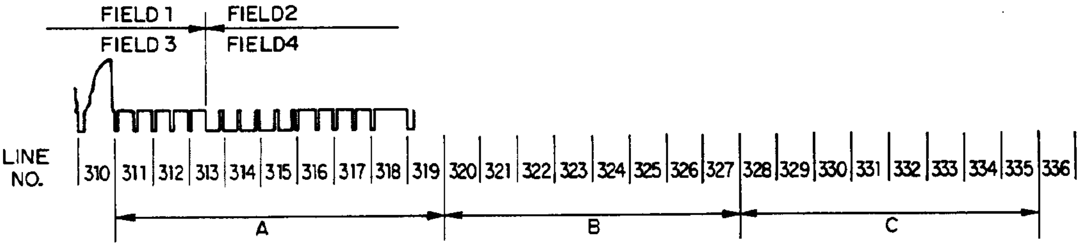
A: Having no connection with switches S5, S6 and S7, blanking is always performed.
B: Blanking of any line is turned ON/OFF by S5.
C: Blanking of any line is turned ON/OFF by S6.
D: Blanking is turned ON/OFF by S7.

These switches are all set ON when shipped from the factory.

㉞ S3: ㉟ S4: V blanking line select switches (for SECAM)

The blanking of any line up to lines 7 to 22 (320 to 335) of the TBC output signal can be turned ON/OFF. However, when ID signal is added on lines 7 to 15 (320 to 328) by setting ㉘ S5: ID ON/OFF switch to ON (Refer to ⑬ B/W, AUTO select switch.), the blanking of lines 16 to 22 (329 to 335) only can be turned ON/OFF. When the BVT-800PS operates in B/W mode and ㉘ S5: ID ON/OFF switch is set to ON, lines 7 to 22 (320 to 335) are blanked regardless of S3 and S4.


FIELD4
FIELD 1
FIELD2
FIELD3
LINE NO.
622
623
624
625
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
A
B
C


FIELD 1
FIELD2
FIELD 3
FIELD4
LINE NO.
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
A
B
C

A: Having no connection with switches S3 and S4, blanking is always performed.

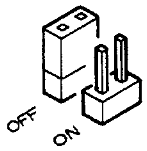
B, C:

operating mode of BVT-800PS (color or B/W)	㉘ ID ON/OFF switch	lines to be blanked
irrelevant	OFF	lines 7 to 22 (320 to 335): depends on ㉞ S3 and ㉟ S4
color	ON	lines 16 to 22 (329 to 335): depends on ㉟ S4 only
B/W	ON	lines 7 to 22 (320 to 335): irrelevant to ㉞ S3 and ㉟ S4

S3, S4 and S5 are all set ON when shipped from the factory.

㊱ J4: chrominance SC blanking ON/OFF jumper (for SECAM)

Only the SECAM chrominance SC signal of the TBC output can be blanked from the line 7(320) to 22(335) by this jumper. See ⑬ B/W, AUTO select switch. J4 is set OFF when shipped from the factory.



OFF: When the off tape video input signal has a chrominance SC on the lines 7(320) to 22(335), the chrominance SC appears on the lines of the BVT-800PS video output signal.
When the off tape video input signal has no chrominance SC on the lines, the unmodulated SC produced in BVT-800PS is added on the lines of the BVT-800PS video output signal. In this case, if ㉘ S5 ID ON/OFF switch is set to ON, the ID signal is added on the lines 7(320) to 15(328).

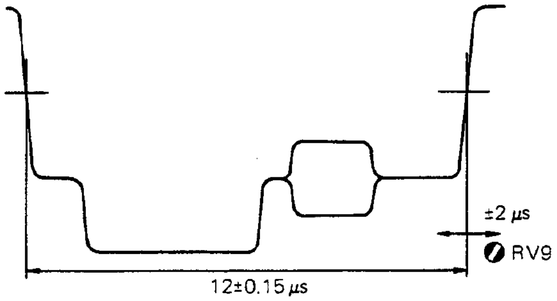
ON: Irrespective of whether the off tape video signal has a chrominance signal on the lines 7(320) to 22(335) or not, the BVT-800PS video output signal has no chrominance signal on the lines. However, if ㉘ S5 ID ON/OFF switch is set to ON, the ID signal produced in BVT-800PS is added on the lines 7(320) to 15(328).

Note: The luminance signal is not blanked by ㊱ J4. When utilizing a VITC signal, set ㊱ J4 to ON.

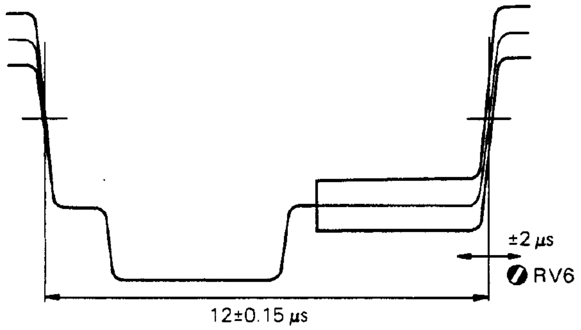
㊲ RV9 (for PAL): ㊲ RV6 (for SECAM): line blanking width vr

The line blanking width of the TBC output signal can be varied approximately +/−2 µs.

PAL

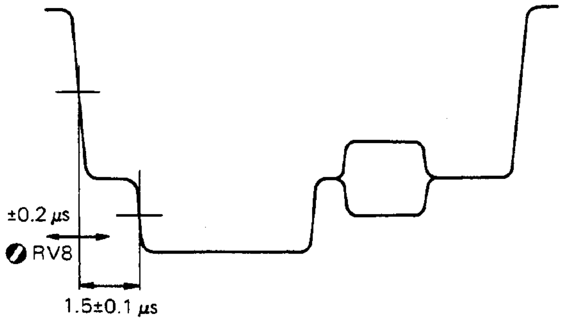


SECAM



㊳ RV8: front porch width vr (for PAL)

The front porch width of the TBC output signal can be varied approximately +/−0.2 µs.



2 PROCESSOR board (PR-40 board)

㊴ CHROMA level control
㊵ CHROMA level PRESET switch

manual: The output signal chroma level is adjustable by the CHROMA level control within the range of +/−3 dB.
When BVT-800PS is a PAL model, be careful not to saturate the chrominance signal of the video output. If the off tape video input is a 100% color-bar signal, the BVT-800PS video output chrominance signal is saturated at +3 dB. The "+3 dB" means the total amount varied by ㉕ DG compensation, ㊴ CHROMA level and ㊸ VIDEO level controls.
When BVT-800PS is a SECAM model, be careful not to overmodulate the FM signal.

PRESET: Irrespective of the CHROMA level control position, the output signal chroma level becomes identical to the input chroma level.

㊶ BLACK LEVEL control
㊷ BLACK LEVEL PRESET switch

manual: The output signal black level is adjustable by the BLACK LEVEL control within the range from 0 to 100 mV against the input signal.

PRESET: Irrespective of the BLACK LEVEL control position, the output signal black level becomes identical to the input signal black level.

㊸ VIDEO level control
㊹ VIDEO level PRESET switch

manual: The output signal video level (luminance signal and chrominance signal for PAL, luminance signal only for SECAM) is adjustable by the VIDEO level control within the range of +/−3 dB.
The sync signal level is constant at 300 mV regardless of the VIDEO level control.

PRESET: Irrespective of the VIDEO level control position, the output signal video level becomes identical to the input signal video level. The sync signal level is constant at 300 mV.

㊺ Y/C DELAY control
㊻ Y/C DELAY PRESET switch

manual: The video output chrominance signal phase against the luminance signal can be varied by the Y/C DELAY control within the range of +/−150 ns. The adjustable range can be shifted by ㊼ S1 Y/C DELAY switch on CLOCK GEN board. See the following table.

PRESET: The Y/C delay control becomes inactive but ㊼ S1 is active in this case also.

㊻ Y/C DELAY PRESET switch	㊼ Y/C DELAY switch	chrominance signal phase against luminance signal	
manual	+	+180 ± 150 ns	adjustable by ㊺ Y/C DELAY control
	0	0 ± 150 ns	
	−	−180 ± 150 ns	
PRESET	+	+180 ns	
	0	0 ns	
	−	−180 ns	

+: Chrominance signal is advanced.
0: The output chrominance signal phase against the luminance signal is identical to the input signal.
−: Chrominance signal is delayed.

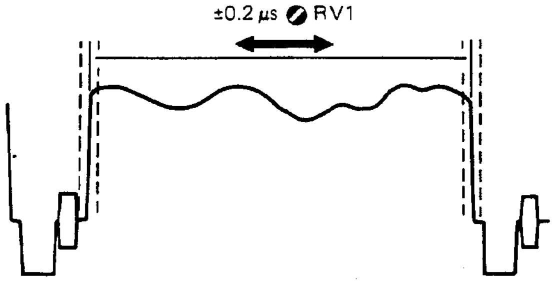
㊼ Y/C DELAY switch is set at 0 position when shipped from the factory.

3 CLOCK GEN board (CK-11 board)

㊼ S1: Y/C DELAY switch
See ㊺ Y/C DELAY control.

㊽ S2: chroma SHIFT/INVert switch (for PAL)
When the PAL video input chrominance signal odd/even (135°/225°) does not coincide with one of the reference signal, the input chrominance signal is shifted one line or inverted in the TBC to coincide with the reference signal.
In BVT-800PS (PAL), when the VTR is in the normal playback mode (i.e. FWDx1 speed playback by R/P head), the input signal odd/even coincides with the reference signal by inversion regardless of this switch. When the VTR is in BIDIREX or DT play mode (i.e. playback by R/P head excepting FWDx1 speed or playback by DT head), inversion or one line shift is selectable by this switch. It is set to SHIFT position when shipped from the factory.
This switch does not affect the operation of BVT-800PS SECAM model.

㊾ **RV1: video phase vr**
The video phase of the TBC output signal can be continuously varied ±0.2 μs.
It is set to coincide with the bypass output video phase when shipped from the factory.



2-9-4. For Remote Control

The following functions can be remote-controlled from Sony BK-2007 Remote Control Unit.

VIDEO level control & manual/PRESET select
CHROMA level control & manual/PRESET select
BLACK LEVEL control & manual/PRESET select
*BURST/CHROMA control & manual/PRESET select
SYSTEM H (SYNC) PHASE control
*SYSTEM SC PHASE control
*: for PAL only

Note 1. Take notice that the ALL PRESET indicator on the BVT-800PS has no relation to the setting of the remote controller.

Note 2. The above controls and manual/PRESET switches can be controlled from BK-2007 by setting the following switches in BVT-800PS to REMOTE position.

Note 3. V PHASE cannot be controlled from BK-2007 but its LOCAL/REMOTE is selectable by (61) S4 (PAL) or (62) J304 (SECAM). If you make a remote controller that is different from BK-2007, you can control V PHASE from the remote controller and also indicate V PHASE on the controller.

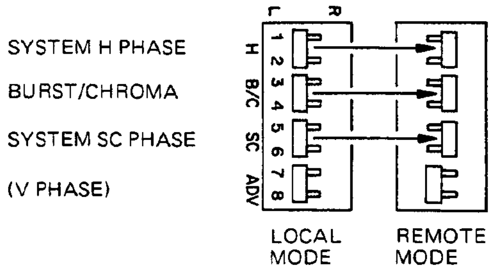
(61) **S4: Local/Remote select switch (for PAL)**
($\boxed{1}$ PAL SYNC GEN board)

(62) **J304: Local/Remote select jumper (for SECAM)**
(63) **J305: Local/Remote select jumper (for SECAM)**
($\boxed{1}$ SECAM SYNC GEN board)

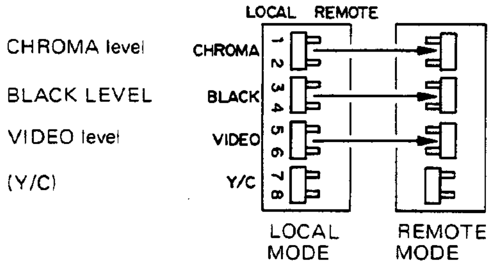
(64) **S6: LOCAL/REMOTE select switch**
($\boxed{2}$ PROCESSOR board)

for PAL

(61) S4 ($\boxed{1}$ PAL SYNC GEN board)

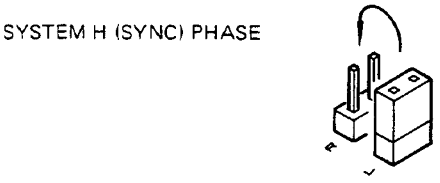

L
R
SYSTEM H PHASE
BURST/CHROMA
SYSTEM SC PHASE
(V PHASE)
H
B/C
SC
ADV
1
2
3
4
5
6
7
8
LOCAL MODE
REMOTE MODE

(64) S6 ($\boxed{2}$ PROCESSOR board)

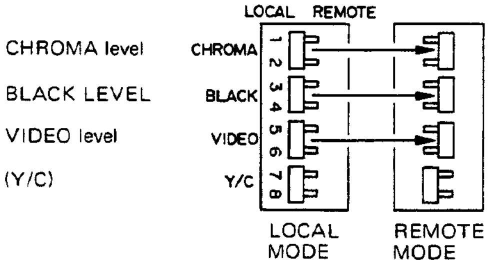

LOCAL
REMOTE
CHROMA level
BLACK LEVEL
VIDEO level
(Y/C)
CHROMA
BLACK
VIDEO
Y/C
1
2
3
4
5
6
7
8
LOCAL MODE
REMOTE MODE

for SECAM

(63) J305 ($\boxed{1}$ SECAM SYNC GEN board)
Pull out the jumper plug from the socket L and plug in the socket R.

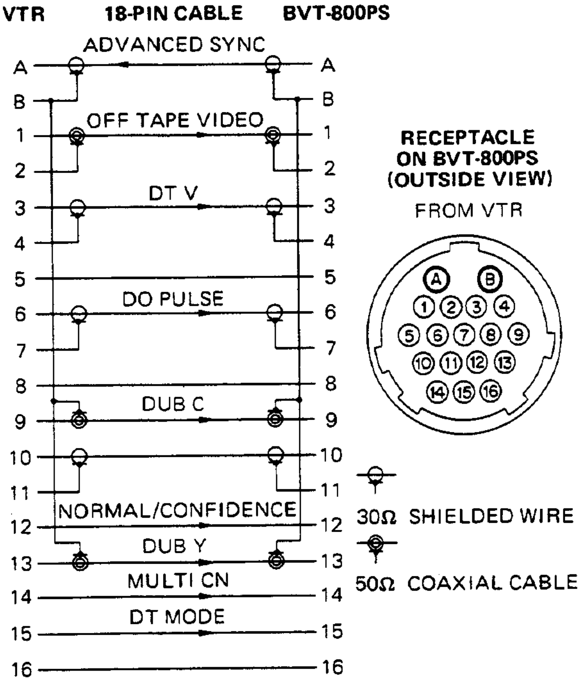

SYSTEM H (SYNC) PHASE

(64) S6 ($\boxed{2}$ PROCESSOR board)


LOCAL
REMOTE
CHROMA level
BLACK LEVEL
VIDEO level
(Y/C)
CHROMA
BLACK
VIDEO
Y/C
1
2
3
4
5
6
7
8
LOCAL MODE
REMOTE MODE

2-9-5. Connector Panel

(71) **FROM VTR connector** (18-pin, male)
Used when connecting a BVU-800/820 series VTR equipped with 18-pin TBC connector. Use the 18-pin cable (3 m) supplied with BVT-800PS. Do not use other cable.


VTR
18-PIN CABLE
BVT-800PS
ADVANCED SYNC
OFF TAPE VIDEO
DT V
DO PULSE
DUB C
NORMAL/CONFIDENCE
DUB Y
MULTI CN
DT MODE
A
B
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
RECEPTACLE
ON BVT-800PS
(OUTSIDE VIEW)
FROM VTR
30Ω SHIELDED WIRE
50Ω COAXIAL CABLE

BVT-800PS output signal

ADVANCED SYNC
2.2 Vp-p +/− 0.3 Vp-p 600 ohm
composite
negative polarity
The phase is in advance of the reference signal by 16H and +/− 1.5H adjusted by ⑪ V PHASE control. In the confidence mode (simultaneous playback), the phase is not guaranteed.

BVT-800PS input signal

OFF TAPE VIDEO
1 Vp-p 50 ohm
+/− 3 dB adjustable
sync negative

DUB Y
off tape luminance signal
0.5 Vp-p (sync tip to 100% white) 75 ohm
+/− 3 dB adjustable
sync negative

DUB C
off tape chrominance signal (down converted by U-matic H VTR)
0.5 Vp-p (75% color-bar) 75 ohm
When the pin 14 "MULTI CN" is grounded at the VTR, BVT-800PS gives priority automatically to OFF TAPE VIDEO, DUB Y and DUB C signals over BNC OFF TAPE VIDEO input. Refer to ⑯ COMP/DUB select switch. The pin 1 OFF TAPE VIDEO signal is used for BYPASS video only.

DT V
TTL level, falling edge reference.

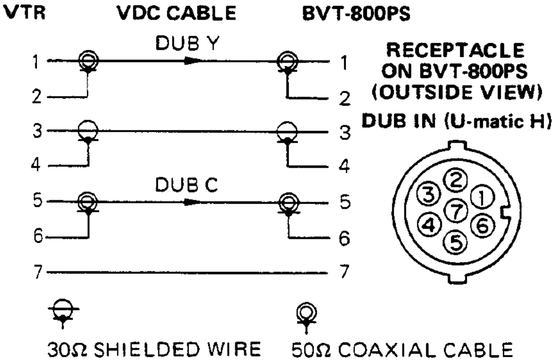
DO PULSE
TTL level, dropout: LOW
When the 18-pin multiple cable is used, the BNC "DOC RF" signal is not needed.

NORMAL/CONFIDENCE
TTL level
confidence mode (simultaneous playback): low

MULTI CN
grounded at VTR.

DT MODE
TTL level, DT mode: LOW

(72) **DUB IN (U-matic H) connector** (7-pin, male)
Connector between a BVU-200 series VTR equipped 7-pin DUB OUT connector and BVT-800PS. Use the VDC cable supplied with the VTR. When connected by this cable, the DUB mode gives a better picture than the COMP mode. Refer to (16) COMP/DUB switch. When the VTR and the TBC are connected by 18-pin cable, the connection by VDC cable is not needed.
When the VTR is neither BVU-200 series nor BVU-800/820 series, even though it is equipped with a DUB OUT connector, it must not connected to BVT-800PS with VDC cable. Its off tape video signal must be inputted to BNC OFF TAPE VIDEO IN connector and the COMP mode must be selected by (16) COMP/DUB switch.



DUB Y input
off tape luminance signal
0.5 Vp-p (sync tip to 100% white) 75 ohm
+/– 3 dB adjustable
sync negative

DUB C input
off tape chrominance signal (down converted by U-matic H VTR)
0.5 Vp-p (75% color-bar) 75 ohm

(73) **OFF TAPE VIDEO IN connector** (BNC connector)
1 Vp-p 75 ohm
+/– 3 dB adjustable
sync negative
Connector for inputting the VTR's video output.
When the VTR is neither BVU-200 series nor BVU-800/820 series, even though it is equipped with DUB OUT connector, its off tape video signal must be inputted to this BNC connector and it must not be connected by VDC cable. In this case, (16) COMP/DUB select switch must be set to COMP.
When the 7-pin VDC cable is connected to the DUB IN connector, the off tape video signal (DUB Y and DUB C signals) is fed from the DUB IN connector and (16) COMP/DUB select switch should be set to DUB. In this case, the OFF TAPE VIDEO IN signal from the BNC connector is used for BYPASS video.
When the 18-pin multiple cable is connected, the off tape video signal from the multiple cable is given priority.

(74) **DOC RF IN connector** (BNC connector)
0.5 Vp-p +/– 6 dB 75 ohm
Connector for inputting the off tape RF signal to detect a dropout. Connected to the OFF TAPE RF connector of the VTR. When the 18-pin multiple cable is used, the "DOC RF" signal is not needed.

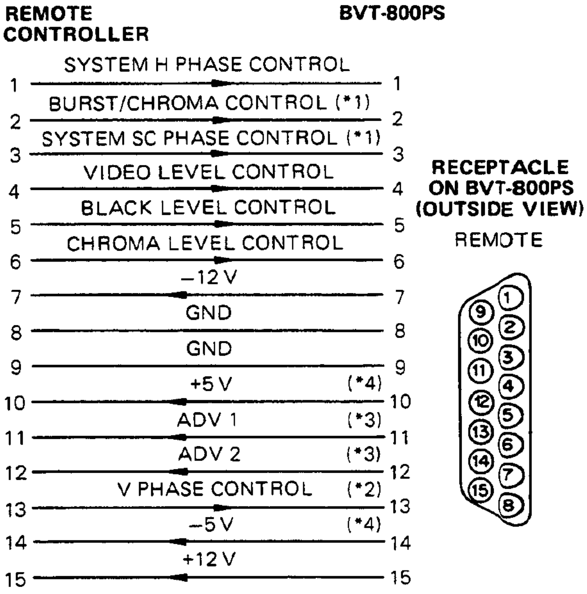
(75) **VIDEO OUT 1, 2, 3 connectors** (BNC connector)
(76) **COMP/NON COMP switch**
1 Vp-p 75 ohm
sync negative
VIDEO OUT connector on TBC. Sync signal of VIDEO OUT 3 is ON/OFF controlled by the COMP/NON COMP switch, however, in the BYPASS mode, the composite signal is always outputted.

(77) **ADV SYNC OUT connector** (BNC connector)
2.2 Vp-p +/– 0.3 Vp-p 75 ohm
composite
negative polarity
This is the sync signal connector for transmitting to the VTR from the TBC advanced by 16H more than the reference signal. The "ADV SYNC" phase is in advance of the reference signal by 16H and +/– 8H adjusted by ⑪ V PHASE control. In the confidence mode (simultaneous playback), the phase is not guaranteed.
Connect to the SYNC IN or VIDEO IN connector on the VTR. When an 18-pin multiple cable is used, the connection by the BNC connector is not needed.

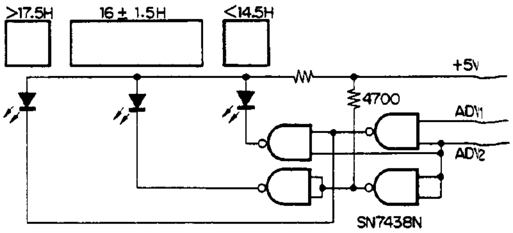
(78) **REFERENCE COMP VIDEO IN/OUT connector**
(BNC connector)
(79) **75 ohm ON/OFF switch**
composite video or black burst signal
1 Vp-p +/– 3 dB 75 ohm
(sync: 300 mV +/– 3 dB, burst: 300 mV +/– 3 dB)
sync negative
TBC reference signal input connector. If no signal is inputted, the TBC operates with its internal reference signal.
When looping, switch to 75 ohm OFF and when terminating, switch to 75 ohm ON.

(80) **SPARE connector** (BNC connector)
It is not wired to the inside circuit. Use it when necessary to the modification.

(81) **REMOTE connector** (D-sub 15-pin, male)
Connector to remote-control the BVT-800PS from Sony Remote Control Unit BK-2007. Use the 15 conductors ribbon cable (2 m) supplied with BK-2007.
Local or Remote mode is selected by the switches on the circuit board. Refer to section 2-9-4. For Remote Control.


REMOTE CONTROLLER
BVT-800PS
1 SYSTEM H PHASE CONTROL 1
2 BURST/CHROMA CONTROL (*1) 2
3 SYSTEM SC PHASE CONTROL (*1) 3
4 VIDEO LEVEL CONTROL 4
5 BLACK LEVEL CONTROL 5
6 CHROMA LEVEL CONTROL 6
7 –12 V 7
8 GND 8
9 GND 9
10 +5 V (*4) 10
11 ADV 1 (*3) 11
12 ADV 2 (*3) 12
13 V PHASE CONTROL (*2) 13
14 –5 V (*4) 14
15 +12 V 15
RECEPTACLE ON BVT-800PS (OUTSIDE VIEW)
REMOTE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

(*1) Applicable for PAL model only.
(*2) BK-2007 has not V PHASE control function but if you make a remote controller different from BK-2007, this function becomes operative. Refer to the section 2-9-4. For Remote Control.
(*3) BK-2007 cannot indicate V PHASE on it but if you make a remote controller different from BK-2007, these signals enable to indicate V PHASE on the remote controller as same as ⑥ V PHASE indicators on the BVT-800PS.


>17.5H
16 ± 1.5H
<14.5H
+5V
4700
ADV1
ADV2
SN7438N

(*4) BK-2007 does not utilize +/– 5 V directly. When making a remote controller, these +/– 5 V may be convenient.

(82) BREAKER

AC 250 V 1.6 A

When the current exceeds the rated value, the BREAKER button turns OFF and the circuit opens. Depressing the button again, it is reset.

(83) VOLTAGE SELECTOR

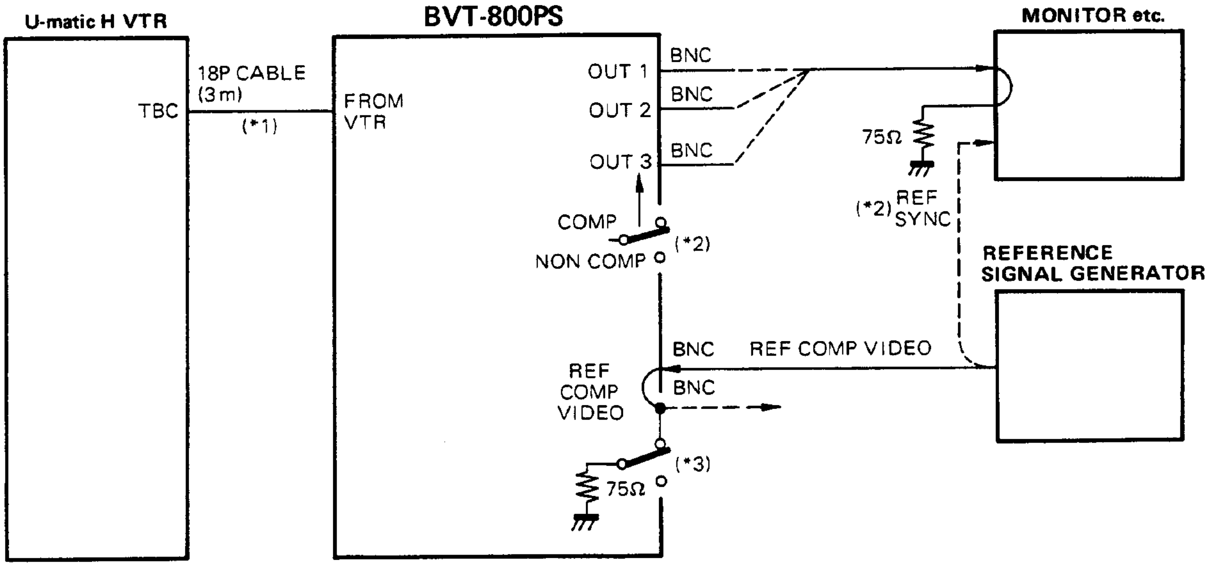
When changing the line voltage, move this left or right in accordance with the power line voltage. See section 2-4. Power Requirements.

(84) power cord

When shipped from the factory, no AC plug may be mounted. If not, prepare and mount a 3-pin plug. When mounting the plug to the power cord, be careful to the polarity. See section 2-4. Power Requirements.

2-10. CONNECTION EXAMPLES

Connection 1: U-matic H VTR with an 18-pin TBC connector
(Ex. BVU-800P/S, BVU-820P/S)


U-matic H VTR
TBC
18P CABLE
(3m)
(*1)
BVT-800PS
FROM
VTR
OUT 1
OUT 2
OUT 3
BNC
BNC
BNC
COMP
NON COMP
(*2)
MONITOR etc.
75Ω
(*2) REF SYNC
REFERENCE SIGNAL GENERATOR
BNC
REF COMP VIDEO
REF COMP VIDEO
BNC
(*3)
75Ω

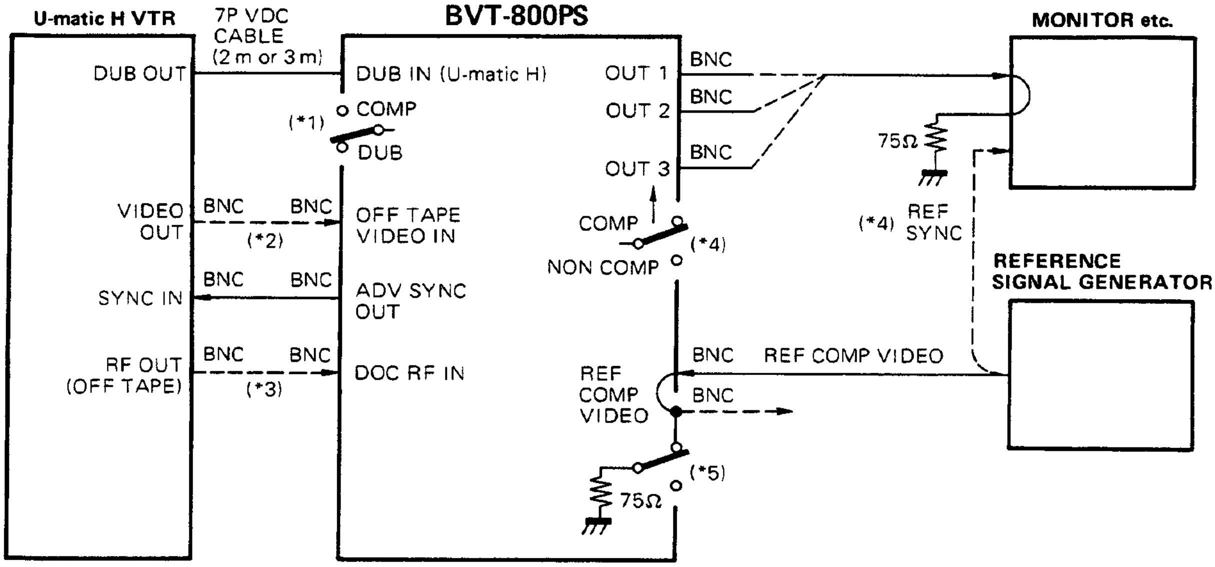
(*1) 18-pin cable & COMP/DUB mode
When connected by an 18-pin cable, BVT-800PS operates in the DUB mode regardless of the COMP/DUB select switch position.

(*2) OUT 3, COMP/NON COMP switch & REF SYNC signal to the monitor etc.
When the COMP/NON COMP switch is set to NON COMP, the OUT 3 has no sync signal and the reference sync input is needed for the monitor etc. In the BY-PASS mode, OUT 3 also outputs the composite signal.

(*3) REF COMP VIDEO & 75Ω switch
When looping the reference composite video signal (or black burst signal), set the 75 ohm switch to OFF and when terminating it, set it to ON. If no signal is inputted, the TBC operates with its internal reference signal.

Connection 2: U-matic H VTR with a 7-pin DUB OUT connector (Ex. BVU-200P/S)

Note: Not applicable to a regular U-matic VTR, even though it is equipped with a 7-pin DUB OUT connector. Refer to Connection 3 for the regular U-matic VTR.


U-matic H VTR
7P VDC CABLE (2 m or 3 m)
BVT-800PS
MONITOR etc.
DUB OUT
DUB IN (U-matic H)
(*1)
COMP
DUB
OUT 1
OUT 2
OUT 3
BNC
75Ω
VIDEO OUT
OFF TAPE VIDEO IN
(*2)
COMP
NON COMP
(*4)
REF SYNC
REFERENCE SIGNAL GENERATOR
SYNC IN
ADV SYNC OUT
RF OUT (OFF TAPE)
DOC RF IN
(*3)
REF COMP VIDEO
(*5)

(*1) COMP/DUB select switch
Set the switch to DUB.

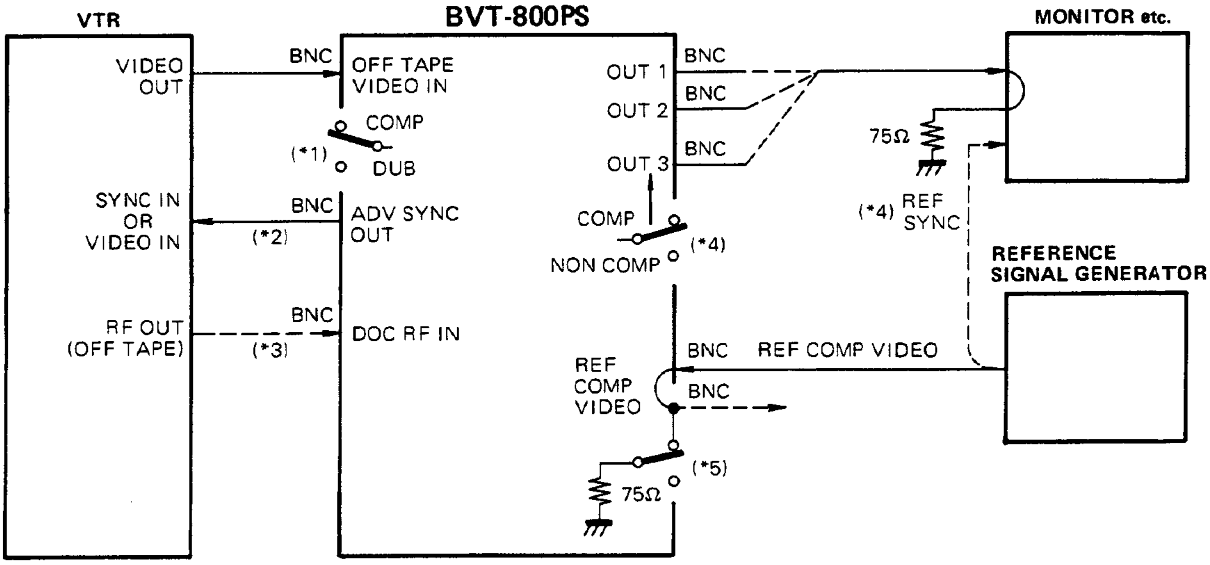
(*2) OFF TAPE VIDEO IN
In the BYPASS mode, this signal is needed.

(*3) DOC RF IN
DOC in the TBC is impossible unless the off tape RF signal of the VTR is connected.

(*4) OUT 3, COMP/NON COMP switch & REF SYNC signal to the monitor etc.
When the COMP/NON COMP switch is set to NON COMP, the OUT 3 has no sync signal and the reference sync input is needed for the monitor etc. In the BYPASS mode, OUT 3 also outputs the composite signal.

(*5) REF COMP VIDEO & 75Ω switch
When looping the reference composite video signal (or black burst signal), set the 75 ohm switch to OFF and when terminating it, set it to ON. If no signal is inputted, the TBC operates with its internal reference signal.

Connection 3: VTR equipped with a capstan servo


VTR
BVT-800PS
MONITOR etc.
VIDEO OUT
BNC
OFF TAPE VIDEO IN
COMP
(*1)
DUB
OUT 1
OUT 2
OUT 3
BNC
BNC
BNC
75Ω
SYNC IN OR VIDEO IN
BNC
(*2)
ADV SYNC OUT
COMP
NON COMP
(*4)
(*4) REF SYNC
REFERENCE SIGNAL GENERATOR
RF OUT (OFF TAPE)
BNC
(*3)
DOC RF IN
REF COMP VIDEO
BNC
REF COMP VIDEO
BNC
(*5)
75Ω

(*1) COMP/DUB select switch
Set the switch to COMP.

(*2) ADV SYNC OUT
When the VTR has no SYNC IN connector, connect to the VIDEO IN connector.

(*3) DOC RF IN
DOC in the TBC is impossible unless the off tape RF signal of the VTR is connected.

(*4) OUT 3, COMP/NON COMP switch & REF SYNC signal to the monitor etc.
When the COMP/NON COMP switch is set to NON COMP, the OUT 3 has no sync signal and the reference sync input is needed for the monitor etc. In the BY-PASS mode, OUT 3 also outputs the composite signal.

(*5) REF COMP VIDEO & 75Ω switch
When looping the reference composite video signal (or black burst signal), set the 75 ohm switch to OFF and when terminating it, set it to ON. If no signal is inputted, the TBC operates with its internal reference signal.

2-11. SPECIFICATIONS

GENERAL

Dimensions	424(w) x 88(h) x 515(d) mm
Weight	13 kg
Power Requirements	AC100-120/220-240 V selectable 100-120 V mode: AC90 to 132 V 220-240 V mode: AC198 to 264 V 48 to 62 Hz 100 W
Ambient Operating Conditions	
Temperature	0 to +40°C
Humidity	10 to 90% (noncondensing)

VIDEO

Band Width	
DUB Mode	Y: 3.5 MHz +/− 0.4 dB 4.3 MHz −3 dB C: +/− 0.75 MHz −3 dB for PAL +/− 0.5 MHz −3 dB for SECAM
COMP Mode	Y: 2.5 MHz +/− 0.4 dB 3.25 MHz −3 dB C: +/− 0.7 MHz −3 dB for PAL +/− 0.5 MHz −3 dB for SECAM
Signal-to-Noise Ratio	More than 55 dB (peak-to-peak video to rms noise)
Differential Gain (for PAL)	2%
Differential Phase (for PAL)	2°
K Factor (2T Pulse)	
DUB Mode	2%
COMP Mode	4%
Chrominance/Luminance Delay	10 ns
Correction Range	29 Hp-p
Residual Error	
Color	+/− 2.5 ns for PAL +/− 15 ns for SECAM
B/W	+/− 15 ns

INPUT SIGNALS

Off Tape Video	1 Vp-p 75 ohm, +/− 3 dB adjustable, sync negative
DOC RF	0.5 Vp-p +/− 6 dB 75 ohm
Reference Composite Video	1 Vp-p +/− 3 dB 75 ohm, sync negative 75 ohm ON/OFF, Looping is possible.

OUTPUT SIGNALS

Video Out 1, 2, 3	1 Vp-p 75 ohm, sync negative Sync signal of VIDEO OUT 3 is controlled ON/OFF by the COMP/NON COMP switch.
Advanced Sync	2.2 +/− 0.3 Vp-p 75 ohm negative polarity

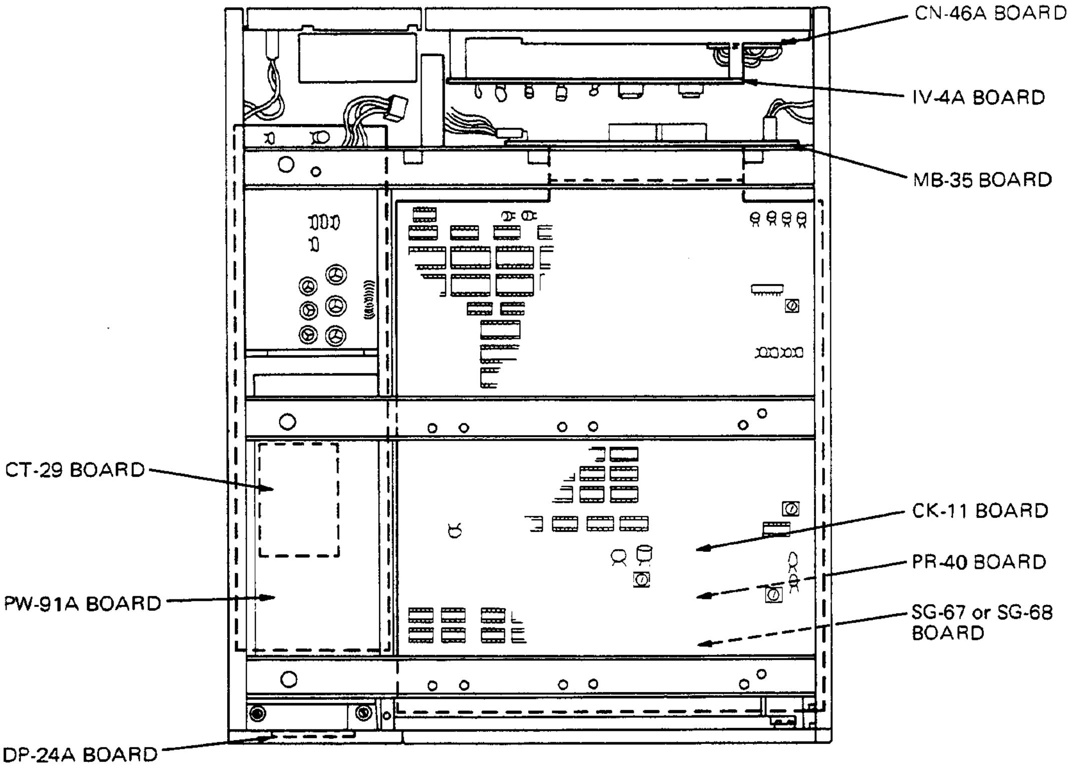
OUTPUT CONTROLS

Video Level	+/− 3 dB (composite for PAL) (luminance for SECAM)
Chroma Level	+/− 3 dB
Black Level	0 to +0.1 V
Burst/Chroma Phase (for PAL)	+/− 15°
DG Compensation (for PAL)	+/− 20%
System H Phase	−1 to +3 μs
System SC Phase (for PAL)	more than +/− 180°
Y/C Delay	+/− 150 ns

Note: For the "FROM VTR" and "DUB IN" multiple connector signals, see "Section 2-9-5 Connector Panel".

SECTION 3
SERVICE INFORMATION

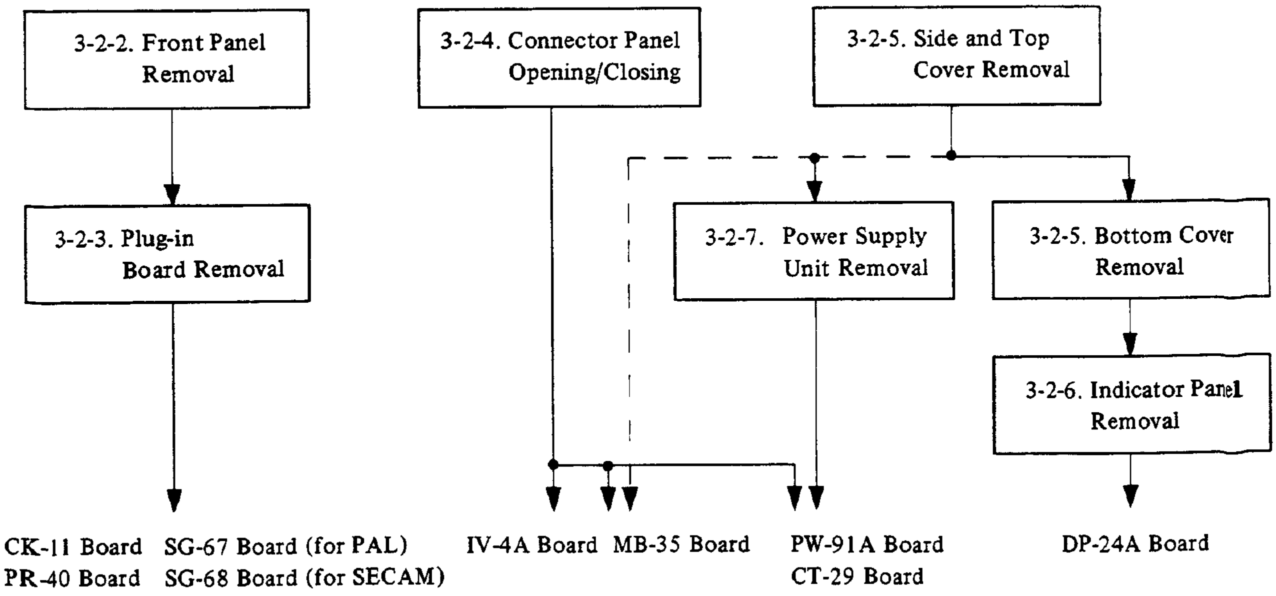
3-1. PRINTED CIRCUIT BOARD LOCATION


CN-46A BOARD
IV-4A BOARD
MB-35 BOARD
CT-29 BOARD
CK-11 BOARD
PR-40 BOARD
SG-67 or SG-68 BOARD
PW-91A BOARD
DP-24A BOARD

3-2. CABINET REMOVAL

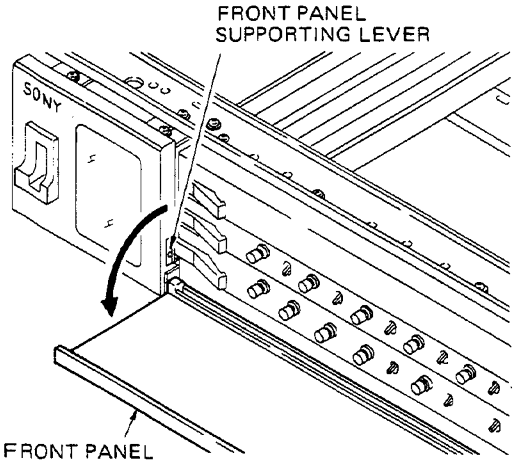
3-2-1. Cabinet Removal Flowchart

The following is the working procedure necessary for checking each printed circuit board. Process indicated by dotted lines is optional:


3-2-2. Front Panel Removal
3-2-4. Connector Panel Opening/Closing
3-2-5. Side and Top Cover Removal
3-2-3. Plug-in Board Removal
3-2-7. Power Supply Unit Removal
3-2-5. Bottom Cover Removal
3-2-6. Indicator Panel Removal
CK-11 Board
PR-40 Board
SG-67 Board (for PAL)
SG-68 Board (for SECAM)
IV-4A Board
MB-35 Board
PW-91A Board
CT-29 Board
DP-24A Board

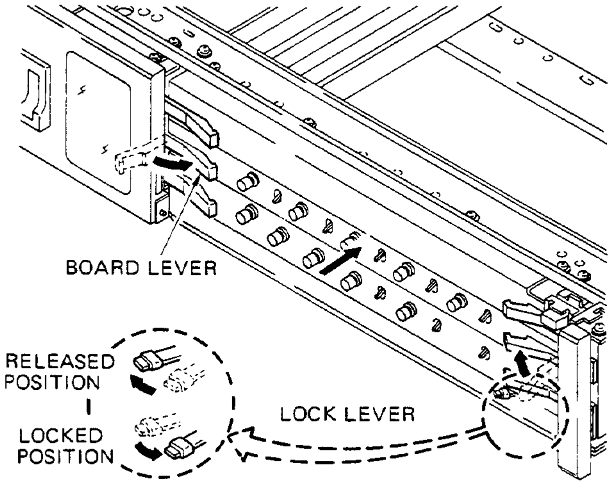
3-2-2. Front Panel Removal

Push the upper part of the front panel to open it and push it again to close it. The front panel is designed to be removable so that the equipment may be used without it.
Push the front panel supporting lever using the finger or tip of a screwdriver to remove it.


FRONT PANEL SUPPORTING LEVER
SONY
FRONT PANEL

Installation

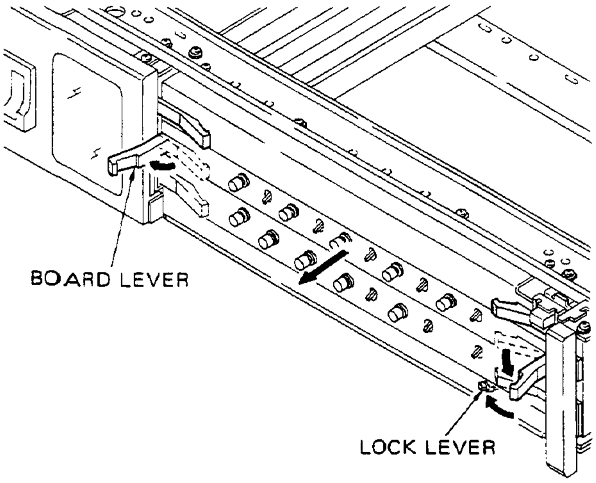
(1) Leave the lock lever moved in the direction indicated.
(2) Push in the boards leaving the board levers lifted and lay the levers inside when the boards are set.
(3) Move the lock lever to the right.


BOARD LEVER
RELEASED POSITION
LOCKED POSITION
LOCK LEVER

3-2-3. Plug-in Board Removal

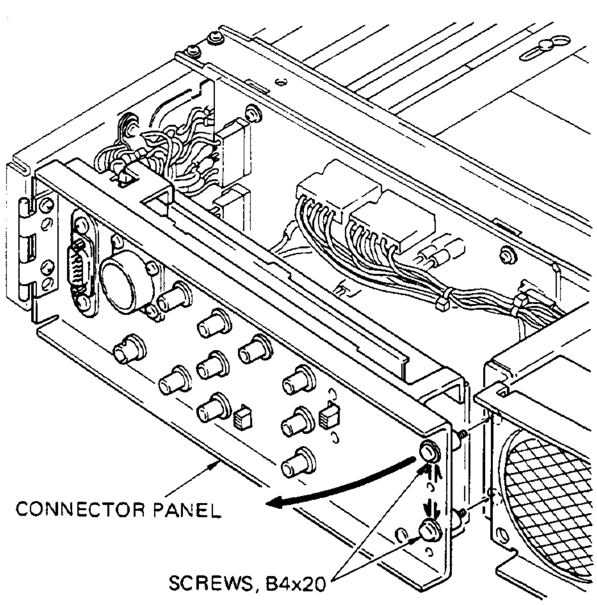
Removal

(1) Move the lock lever in the direction indicated.
(2) Lift both left and right board levers.
(3) Pull out the boards.


BOARD LEVER
LOCK LEVER

3-2-4. Connector Panel Opening/Closing

Loosen the two screws and open the connector panel as shown below.

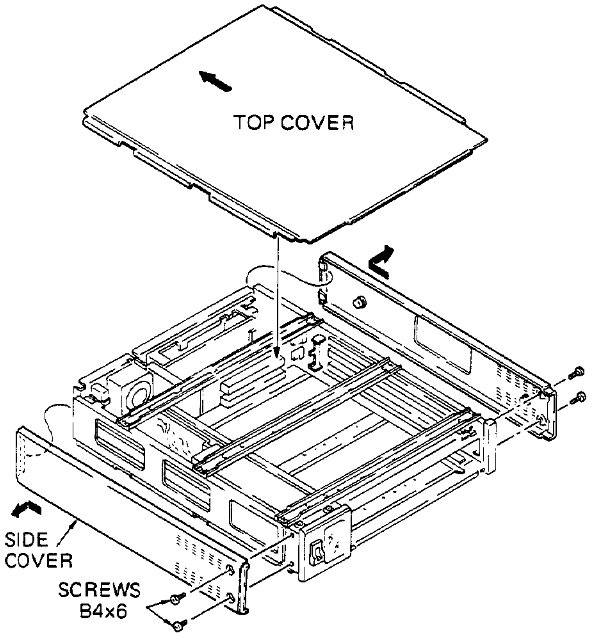

CONNECTOR PANEL
SCREWS, B4x20

3-2-5. Side, Top and Bottom Cover Removal

Side and Top Cover Removal

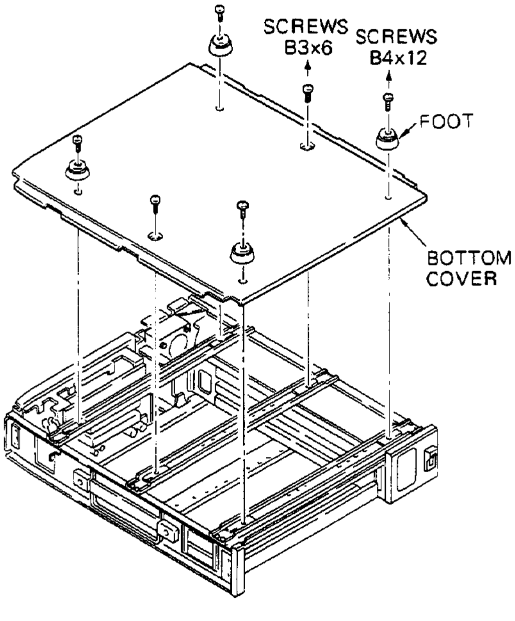
(1) Remove the B4x6 screws (two on each side) and then remove side covers as shown below.

(2) Pull the top cover in the direction indicated.


TOP COVER
SIDE COVER
SCREWS B4x6

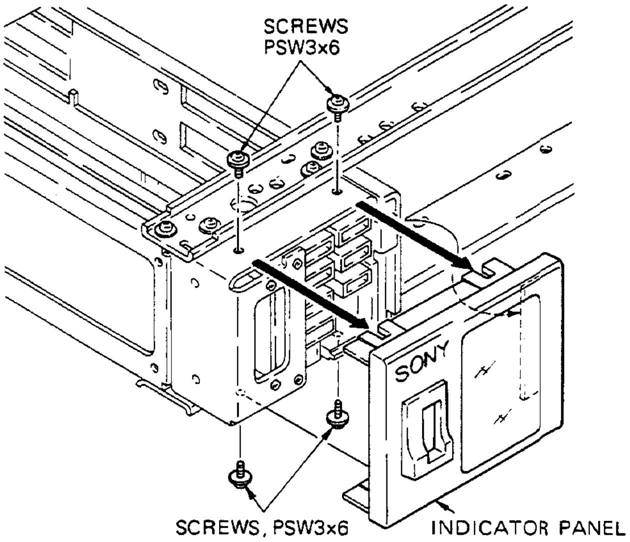
Bottom Cover Removal

(3) Remove the four feet and the two B3x6 screws.


SCREWS B3x6
SCREWS B4x12
FOOT
BOTTOM COVER

3-2-6. Indicator Panel Removal

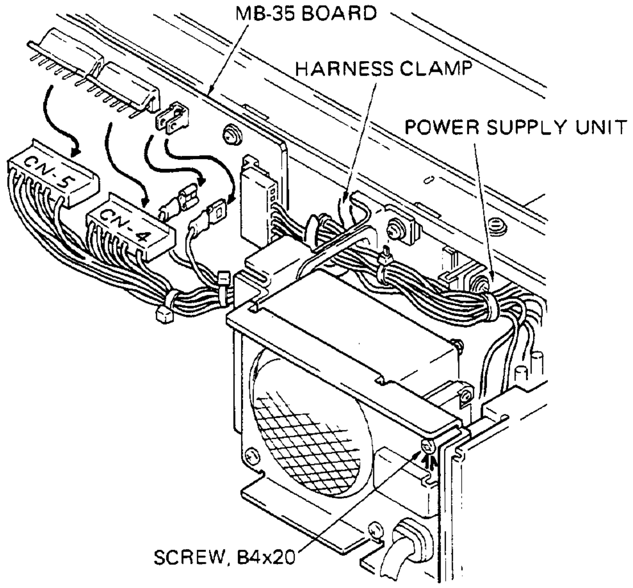
After removing top and bottom covers, remove the four PSW3x6 screws as shown below.


SCREWS PSW3x6
SONY
SCREWS, PSW3x6
INDICATOR PANEL

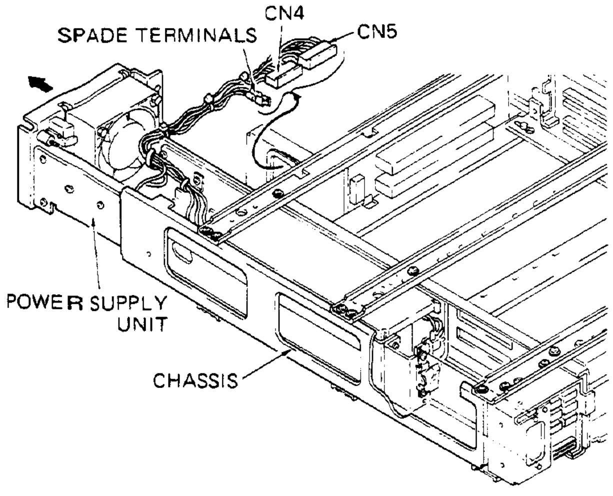
3-2-7. Power Supply Unit Removal

Open the connector panel and pull out the power supply unit following the procedure below:

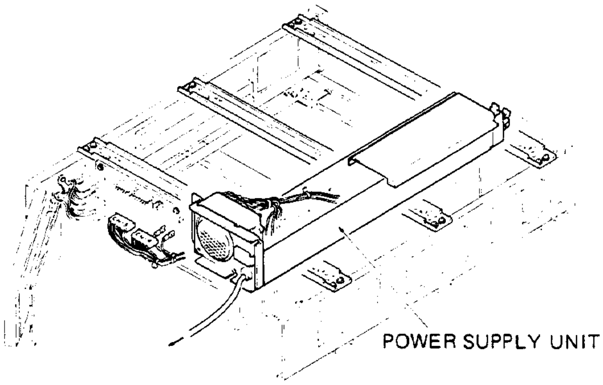
(1) Loosen the B4x20 screw.
(2) Disconnect CN4, CN5 and the two spade terminals from the MB-35 board.
(3) Loosen the harness clamp and push into the power supply unit.


MB-35 BOARD
HARNESS CLAMP
POWER SUPPLY UNIT
CN-5
CN-4
SCREW, B4x20

(4) Pull out the power supply unit in the direction indicated.


CN4
SPADE TERMINALS
CN5
POWER SUPPLY UNIT
CHASSIS

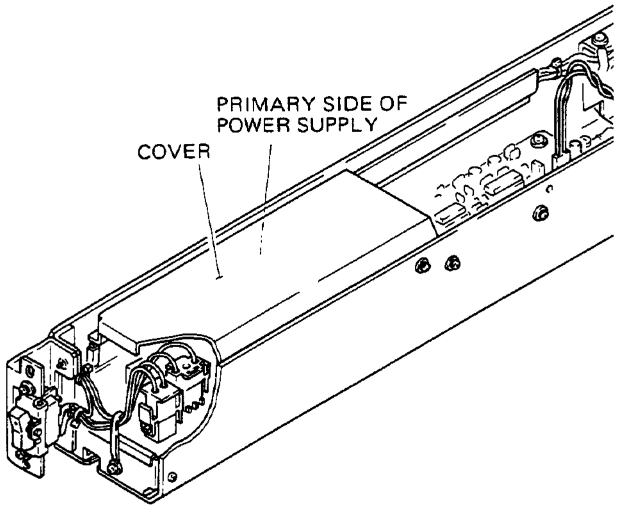
(5) **Power supply unit checking method**
After removing the power supply unit, place it on the equipment and connect CN4, CN5 and spade terminals to the MB-35 board. Then switch on the power supply in this condition.


POWER SUPPLY UNIT

3-3. NOTES ON SERVICING

3-3-1. Notes on the Power Supply Unit

(1) Most of the circuits are in the primary side as this model's power supply is a switching regulator, so be careful to avoid electric shock. The primary is the area protected with a cover in the following figure.



(2) There is a danger of shock even after switching off the power, due to remaining charge in the capacitors. Care is needed for about one minute after switching off.

(3) Perform checks with CN4, CN5 and two spade terminals connected to MB-35 board as operation of the power supply unit with no load could damage it.

(4) A breaker functions when the equipment is powered at AC220-240 V with its voltage selector set to AC100-120 V.

(5) The equipment does not operate if the input voltage is below the rated value, i.e., it will not operate at AC110-120 V with its power voltage selector set at AC220-240 V.

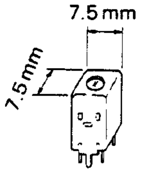
(6) If the power supply stops generating during use due to abnormal conditions, it will not restart unless switched on again. One minute or more must be allowed for restarting.

3-3-2. Plug-in Board Lock Mechanism

This model is equipped with a lock mechanism to avoid detaching the plug-in boards. Move the lock lever to the left to release the boards and to the right to lock them. When loading or detaching a board, first unlock and then use the board levers. See Section 3-2-3 "Plug-in Board Removal".

3-3-3. Note on Square Fixed Inductor

The following square fixed inductor appears similar to variable inductors, but those mounted on the printed circuit boards and those in stock as the repair parts are all set at the factory and must not be re-adjusted in the field.

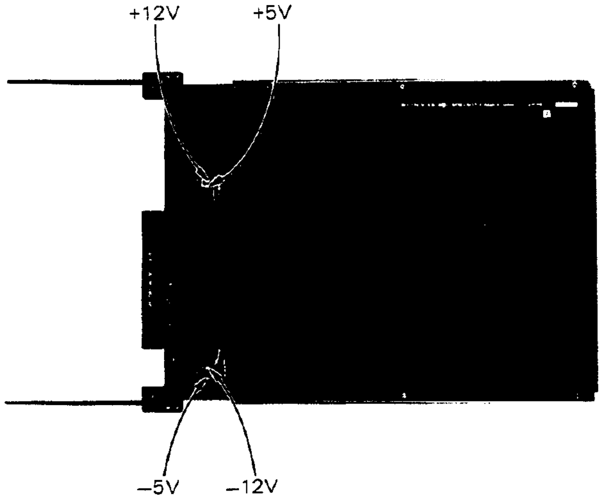


3-4. SERVICE TOOLS

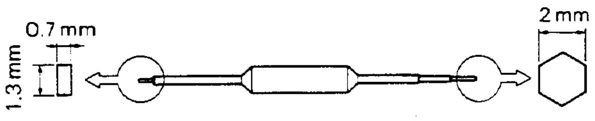
Extension Board: EB-9A Sony Part No. A-6252-050-A

Used for checking and repairing the plug-in boards. BVT-800PS has 1 pc as an accessory.

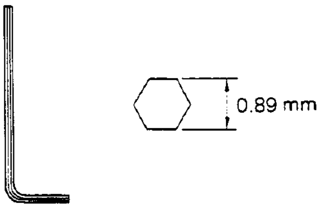
If the EB-9A extension board is inserted into the BVT-800PS, it is possible to check that +12 V, −12 V, +5 V and −5 VDC is being supplied by checking the illumination of the red LEDs on the extension board.



Adjusting Screwdriver Sony Part No. 7-700-733-01

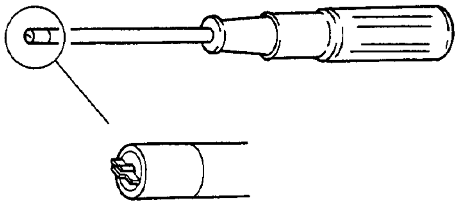


Hexagonal Wrench Sony Part No. 7-700-736-06



"TOTSU" Screwdriver

3 mm DIA	Sony Part No. 7-721-050-63
4 mm DIA	Sony Part No. 7-721-050-64



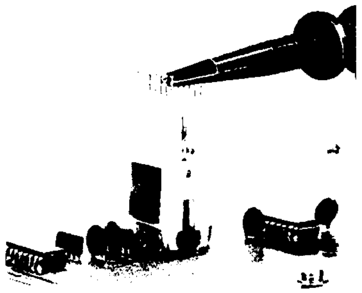
IC Test Clip

Type TC-16	Sony Part No. J-6041-770-A
Type TC-20	Sony Part No. J-6041-780-A

Manufacturer;

AP PRODUCTS INCORPORATED
Box 697 72 Corwin Drive
Painesville, Ohio 44077, USA
TEL; 216-354-2101

When connecting the test probe to the terminal of DIP integrated circuit, these clips are convenient. Type TC-16 is for DIP 14-pin or 16-pin IC and Type TC-20 is for 18-pin or 20-pin IC.



3-5. NOTES ON REPAIR PARTS

(1) **Safety Related Components Warning.**

> Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

(2) **Standardization of Parts**

Repair parts supplied from Sony Parts Center may not be always identical with the parts which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts."

This manual's exploded views and electrical spare parts lists are indicating the part numbers of "the standardized genuine parts at present".

(3) **Change of Parts**

Regarding engineering parts changes, refer to Section E "CHANGED PARTS".

(4) **Stock of Parts**

Printed Components in Bold-Face type on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

(5) **Units for Capacitors, Inductors and Resistors**

The following units are assumed in the schematic diagram and electrical parts list unless otherwise specified:

Capacitors: μF
Inductors: μH
Resistors: ohm

SECTION 4
THEORY OF OPERATION

4-1. OUTLINE OF BVT-800PS

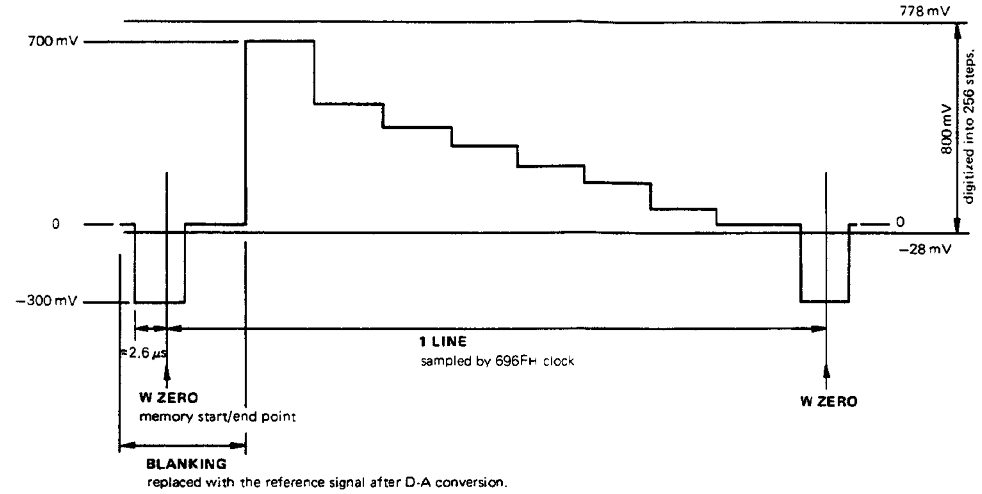
BVT-800PS is a TBC designed for SC low frequency conversion type PAL or SECAM VTR such as U-matic. It has a wide correction range of 29Hp-p, applicable to DT play and BIDIREX play also. The VTR must be able to V-lock to an external signal while playing back.

BVT-800PS for PAL and for SECAM consists of the common circuits except a sync generator circuit board. The sync generator board for PAL or SECAM is mounted in each BVT-800PS and these boards are available as options BKT-801 (for PAL) and BKT-802 (for SECAM).

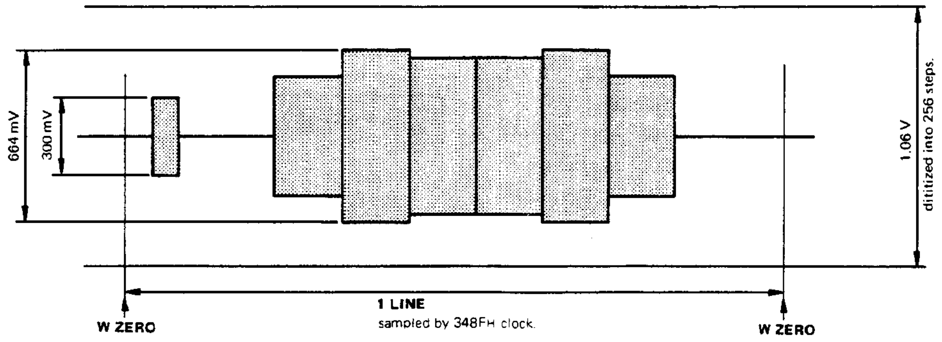
The off tape video signal is inputted to BVT-800PS by the two formats. One is a composite signal and the other is Y and C signals that are separated in the VTR. The SC frequency of the C signal is down converted in the U-matic H VTR. The process of the composite signal in the TBC is named COMP mode and the other is called DUB mode.

The off tape video signal is digitized into 256 steps (8 bits). The sampling frequency is 696FH for Y signal and 348FH for C signal.

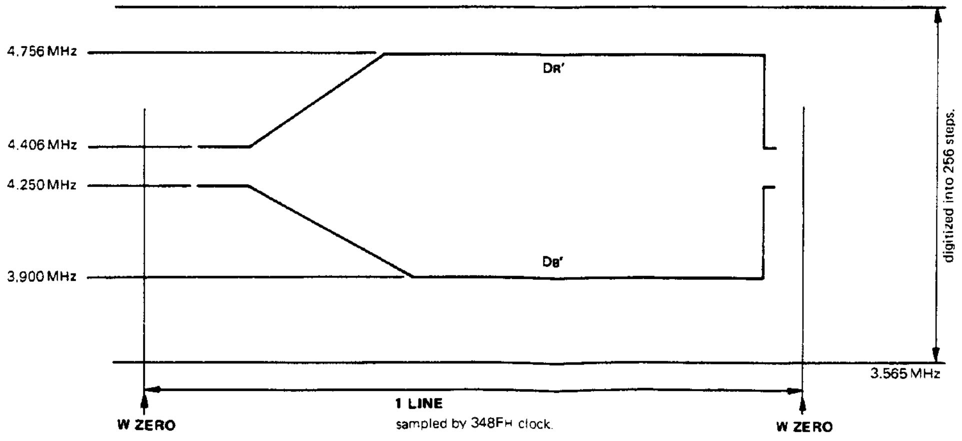
Y signal (100.0.75.0 color bars)


778 mV
700 mV
800 mV
digitized into 256 steps.
0
0
−28 mV
−300 mV
≈2.6 μs
1 LINE
sampled by 696FH clock
W ZERO
memory start/end point
W ZERO
BLANKING
replaced with the reference signal after D-A conversion.

PAL C signal (100.0.75.0 color bars)


664 mV
300 mV
1.06 V
dititized into 256 steps.
1 LINE
sampled by 348FH clock.
W ZERO
W ZERO

SECAM C signal (DR′, DB′)


4.935 MHz
4.756 MHz
DR′
4.406 MHz
4.250 MHz
DB′
3.900 MHz
digitized into 256 steps.
3.565 MHz
1 LINE
sampled by 348FH clock.
W ZERO
W ZERO

4-1-1. Outline of BVT-800PS PAL

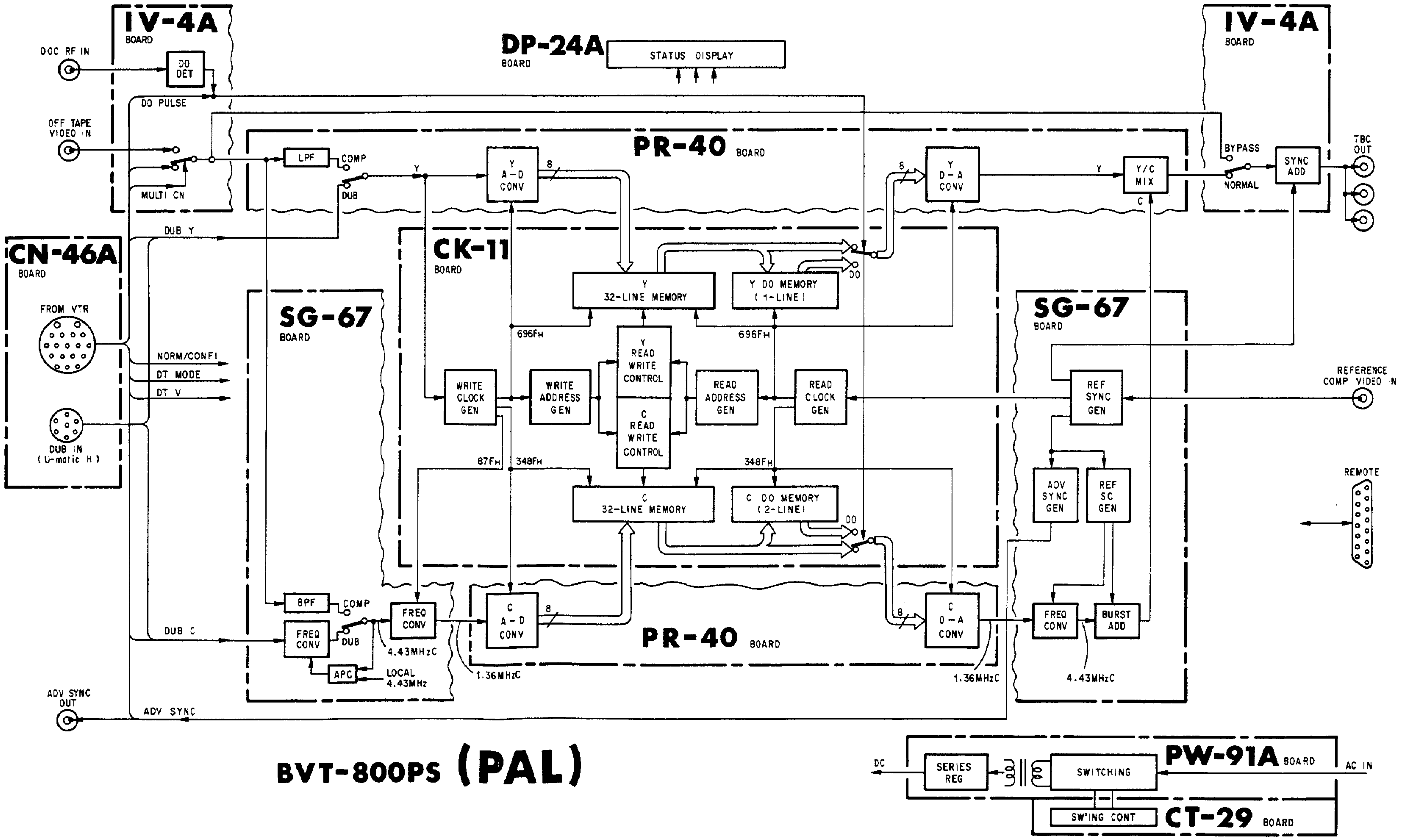
In the COMP mode, the Y signal of the off tape composite signal has a time-base error but the time-base error of the C signal is cancelled in the VTR when the SC is reconverted into PAL frequency. The composite signal is separated into Y and C signals in the TBC.
In the DUB mode, the Y and C signals which have the same time-base error are inputted to the TBC and the SC frequency of the C signal is down converted in the U-matic H VTR. Once the C signal is reconverted into PAL frequency in the TBC, the time-base error is cancelled and the C signal becomes equivalent to the C signal in the COMP mode.
Next, the C signal is frequency-converted into 1.36 MHz and given the same time-base error as that of the Y signal by the carrier that is formed from the horizontal sync signal.

The Y signal is sent to Y A-D converter and the 1.36 MHz C signal is sent to C A-D converter.
The Y signal is sampled by the 696FH clock (Y WRITE CLOCK) formed from the horizontal sync signal of the Y signal and converted into 8-bit binary code (256 steps). The digitized data are written into Y 32-line memory.
The 1.36 MHz C signal is sampled by the 348FH clock (C WRITE CLOCK) and converted into 8-bit binary code. The digital C signal is written into C 32-line memory.
The written data are then read out by READ CLOCK (Y: 696FH, C: 348FH) made from a reference signal which has no time-base error. They are sent to DOC (Drop-Out Compensator) and D-A converter.

Y DOC consists of a 1-line memory and C DOC consists of a 2-line memory. Normally the D-A converter input is the data read out from 32-line memory, but when a dropout occurs in the VTR, the affected part is replaced with the data read out from the DOC memory. Y DOC replaces the Y signal with the signal before 1H and C DOC replaces the C signal with the one before 2H.

The Y and C signals read out from each 32-line memory or DOC memory are reconverted into analog Y and 1.36 MHz C signals.

After D-A conversion, the frequency of the C signal is reconverted into 4.43 MHz by the carrier formed from the reference signal. A burst signal is added to the C signal and then the C signal is mixed with the Y signal. A sync signal is added to the mixed Y & C signal and the PAL composite signal is sent out as an output signal.


IV-4A
BOARD
DOC RF IN
DO DET
DO PULSE
OFF TAPE VIDEO IN
MULTI CN
DP-24A
BOARD
STATUS DISPLAY
PR-40
BOARD
LPF
COMP
DUB
Y
Y A-D CONV
8
Y D-A CONV
Y/C MIX
C
BYPASS
NORMAL
SYNC ADD
TBC OUT
CN-46A
BOARD
FROM VTR
DUB Y
NORM/CONFI
DT MODE
DT V
DUB IN (U-matic H)
CK-11
BOARD
Y 32-LINE MEMORY
Y DO MEMORY (1-LINE)
DO
696FH
SG-67
BOARD
Y READ WRITE CONTROL
C READ WRITE CONTROL
WRITE CLOCK GEN
WRITE ADDRESS GEN
READ ADDRESS GEN
READ CLOCK GEN
87FH
348FH
C 32-LINE MEMORY
C DO MEMORY (2-LINE)
REF SYNC GEN
REFERENCE COMP VIDEO IN
ADV SYNC GEN
REF SC GEN
REMOTE
BPF
FREQ CONV
APC
LOCAL 4.43MHz
4.43MHzC
C A-D CONV
1.36MHzC
C D-A CONV
BURST ADD
DUB C
ADV SYNC OUT
ADV SYNC
DC
SERIES REG
SWITCHING
PW-91A BOARD
AC IN
SW'ING CONT
CT-29 BOARD

BVT-800PS (PAL)

4-1-2. Outline of BVT-800PS SECAM

In the SECAM model, the Y signal is processed in the same way as the PAL model. The C signal is processed in the following way:

In the COMP mode, the off tape C signal is reconverted into the SECAM frequency in the VTR, but in the DUB mode, the C signal is converted into the low frequency in the U-matic H VTR. The down converted C signal is reconverted into the SECAM frequency in the TBC so that the C signal becomes equivalent to the COMP mode C signal. This C signal is demodulated to the color difference signal DR′/DB′.

The demodulated DR′/DB′ signal is processed by A-D converter, 32-line memory, DOC and D-A converter and reconverted into DR′/DB′ signal. These processes are same as PAL.

The reconverted DR′/DB′ signal frequency-modulates the 4.406/4.250 MHz carrier and becomes a SECAM C signal. The SECAM C signal is mixed with the Y signal that is reconverted into analog signal. A sync signal is added to the mixed Y & C signal and the SECAM composite signal is sent out as an output signal.

4-2. OUTLINE OF PRINTED CIRCUIT BOARDS

Principal circuits of BVT-800PS are placed on the following three plug-in boards.

SG-67 (PAL) or SG-68 (SECAM) SYNC GENERATOR board
PR-40 PROCESSOR board
CK-11 CLOCK GENERATOR board

Apart from these, there are six other boards; IV-4A, DP-24A, CN-46A, PW-91A, CT-29 and the Mother-Board MB-35.

The SG-67 PAL SYNC GENERATOR board contains a reference sync generator and a heterodyne color circuit. The SG-68 SECAM SYNC GENERATOR board contains a reference sync generator and a color difference signal demodulator/modulator.

The PR-40 PROCESSOR board is A-D/D-A converters for Y and C signals.

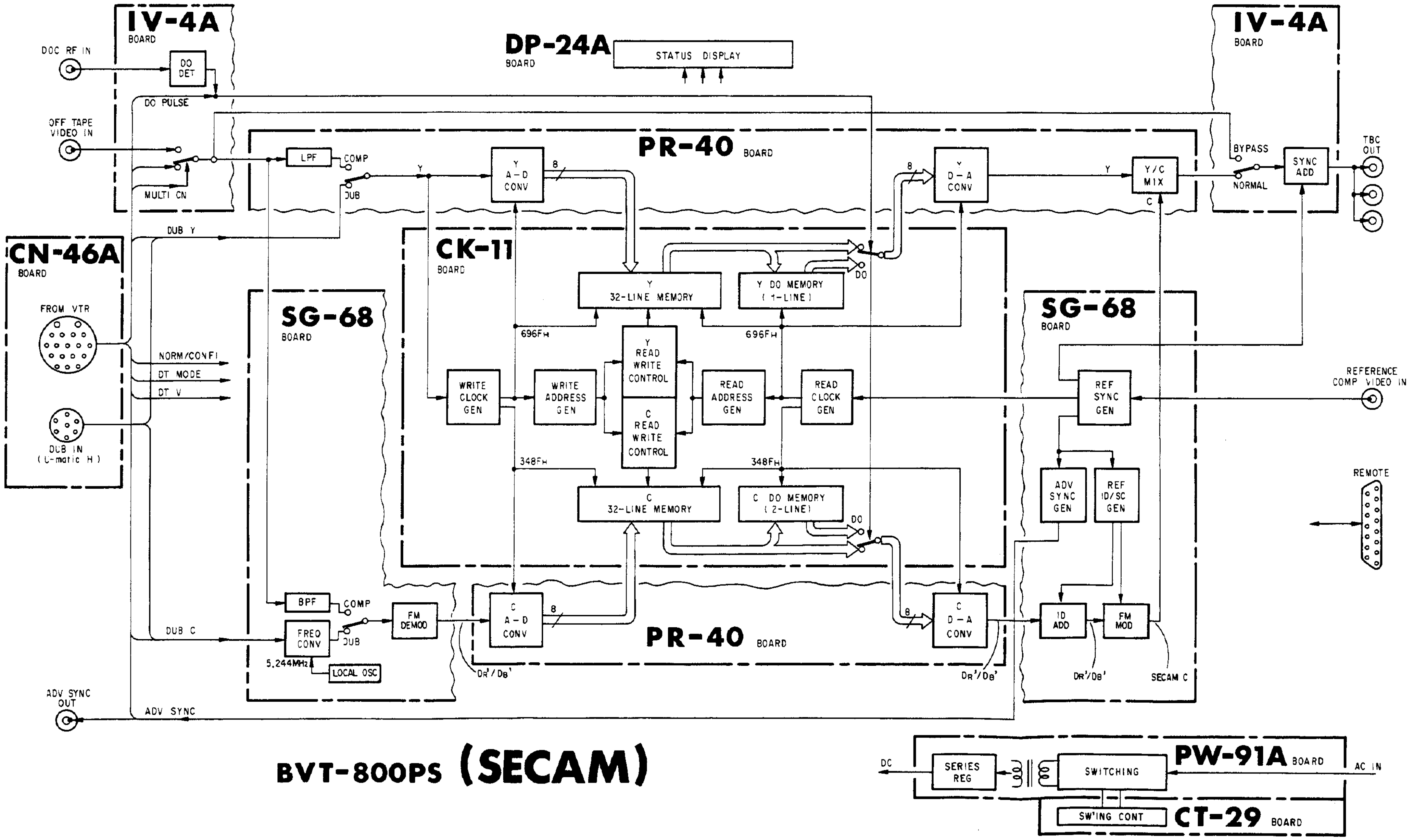
The CK-11 CLOCK GENERATOR board contains read and write clock generators, 32-line memories and DOCs for Y and C signals. The signals to control the timing of each part also are made on this board.

The IV-4A board contains the video signal input/output buffer and the dropout detection circuit. The output signal NORMAL/BYPASS switching and the addition of sync signal are performed on the IV-4A board.

The DP-24A board indicates the input level, PAL/SECAM mode, COMP/DUB mode, etc.

The CN-46A board is for 18-pin VTR connector and 7-pin DUB IN connector relay purpose.

The PW-91A board is a DC regulator; in this model, a switching regulator is used. The CT-29 board controls the PW-91A board switching.


IV-4A BOARD
DOC RF IN
DO DET
DO PULSE
OFF TAPE VIDEO IN
MULTI CN
DP-24A BOARD
STATUS DISPLAY
PR-40 BOARD
LPF
COMP
DUB
Y
Y A-D CONV
8
Y D-A CONV
Y/C MIX
C
BYPASS
NORMAL
SYNC ADD
TBC OUT
IV-4A BOARD
DUB Y
CN-46A BOARD
FROM VTR
DUB IN (U-matic H)
NORM/CONFI
DT MODE
DT V
CK-11 BOARD
Y 32-LINE MEMORY
Y DO MEMORY (1-LINE)
DO
696FH
Y READ WRITE CONTROL
C READ WRITE CONTROL
WRITE CLOCK GEN
WRITE ADDRESS GEN
READ ADDRESS GEN
READ CLOCK GEN
348FH
C 32-LINE MEMORY
C DO MEMORY (2-LINE)
SG-68 BOARD
SG-68 BOARD
REF SYNC GEN
REFERENCE COMP VIDEO IN
ADV SYNC GEN
REF ID/SC GEN
REMOTE
BPF
FREQ CONV
5.244MHz
LOCAL OSC
DUB C
FM DEMOD
C A-D CONV
C D-A CONV
PR-40 BOARD
DR′/DB′
ID ADD
FM MOD
SECAM C
ADV SYNC OUT
ADV SYNC
DC
SERIES REG
SWITCHING
PW-91A BOARD
AC IN
SW'ING CONT
CT-29 BOARD

BVT-800PS (SECAM)

SECTION 5
GENERAL INFORMATION FOR ALIGNMENT

5-1. INDEX OF ADJUSTMENT COMPONENTS

SG-67 Board Section	**Section**
J2; Jumper Plug	16-6
J3; Jumper Plug	16-2,16-3, 16-6
LV200	16-9
RV1; V PHASE Control	1-2-1,2-9-2, 6-3
RV2; SYSTEM SC PHASE Control	1-2-1,2-9-3, 6-3
RV3; SYSTEM H PHASE Control	1-2-1,2-9-3, 6-3
RV4; BURST/CHROMA Control	1-2-1,2-9-3, 6-3
RV5; DG Compensation Control	1-2-1,2-9-3, 6-3
RV6	16-6
RV7	16-6
RV8; Front Porch Width Control	2-9-3,6-3, 16-8
RV9; Line Blanking Width Control	2-9-3,6-3, 16-8
RV200	16-13
RV201	16-11
RV202	16-7
RV203	12-4
RV204	16-10
RV205	12-3
RV206	16-9
RV207	16-12
RV208	18-2
RV209	18-2
RV210	12-2
RV500	16-2
RV501	16-3
RV502	16-2
RV503	16-3
RV504	16-6
RV506; Burst Width Adjustment Control	2-9-3,6-3, 16-5
RV507	16-5
RV508	16-4
S1; BURST/CHROMA PRESET Switch	1-2-1,2-9-3, 6-3
S2; B/W, COLOR, AUTO Select Switch	1-2-1,2-9-2, 6-3
S3; BYPASS/NORMAL Select Switch	1-2-1,2-9-3, 6-3
S4; Local/Remote Select Switch	2-9-4,6-3
S5; V Blanking Line Select Switch	2-9-3,6-3
S6; V Blanking Line Select Switch	2-9-3,6-3
S7; V Blanking Line Select Switch	2-9-3,6-3
S200; Chroma O/E Inertia Select Switch	2-9-2,6-3
S500; Burst ON/OFF Switch	2-9-3,6-3

SG-68 Board Section	**Section**
CV100	14-1
J3; D'$_R$/D'$_B$ INT/EXT Select Jumper	6-3
J4; Chrominance SC Blanking ON/OFF Jumper	2-9-3,18-3
J104; NOR/ADJ Select Jumper	6-3,17-6
J304; Local/Remote Select Jumper	2-9-4,6-3
J305; Local/Remote Select Jumper	2-9-4,6-3
LV100	14-4
LV300	17-8
RV1; V PHASE Control	1-2-1,2-9-2, 6-3
RV2; SYSTEM H PHASE Control	1-2-1,2-9-3, 6-3,17-6
RV3	13-1
RV4	13-2
RV5; Chrominance SC Blanking Width Control.	2-9-3,6-3, 13-3
RV6; Line Blanking Width Control	2-9-3,6-3, 13-3
RV100	14-2
RV101	14-3
RV102	14-7
RV103	18-3
RV104	18-3
RV105	14-5
RV106	14-5
RV107.	14-6
RV108	14-6
RV300	17-6
RV301	17-5
RV302	17-4
RV303	17-6
RV304	17-6
RV305	17-6
RV306	17-5
RV307	17-4
RV308	17-1
RV310	17-9
RV311	17-3
RV312	17-7
RV313	17-2
S1; B/W, AUTO Select Switch	1-2-1,2-9-2, 6-3
S2; BYPASS/NORMAL Select Switch	1-2-1,2-9-3, 6-3
S3; V Blanking Line Select Switch	2-9-1,6-3
S4; V Blanking Line Select Switch	2-9-1,6-3
S5; ID ON/OFF Switch	2-9-1,17-4 6-3
S100; Chroma O/E Inertia Select Switch	2-9-1,6-3

PR-40 Board

PR-40 Board	Section		Section
RV1; INPUT LEVEL Control	1-2-1,2-9-2, 6-3,12-1,16-1		
RV2; CHROMA Level Control	1-2-1,2-9-3, 6-3		
RV3; BLACK LEVEL Control	1-2-1,2-9-3, 6-3		
RV4; VIDEO Level Control	1-2-1,2-9-3, 6-3		
RV5; Y/C DELAY Control	1-2-1,2-9-3, 6-3		
RV101	15-3	RV110	15-3
RV102	15-2	RV501	15-12
RV103	15-1	RV503	19-1
RV104	15-1	RV504	15-10
RV105	15-5	RV505	15-9
RV106	15-6	RV506	15-11
RV107	15-7	RV507	15-8
RV108	15-4	RV508	15-8
RV109	15-7	RV509	19-1
S1; COMP/DUB Select Switch	1-2-1,2-9-2, 6-3		
S2; CHROMA Level PRESET Switch	1-2-1,2-9-3, 6-3		
S3; BLACK LEVEL PRESET Switch	1-2-1,2-9-3, 6-3		
S4; VIDEO Level PRESET Switch	1-2-1,2-9-3, 6-3		
S5; Y/C DELAY PRESET Switch	1-2-1,2-9-3, 6-3		
S6; LOCAL/REMOTE Select Switch	2-9-4,6-3		
S101; DUB Mode Release Switch	2-9-2,6-3		

CK-11 Board

CK-11 Board	Section		Section
LV1	11-1	LV2	10-2
RV1; Video Phase Control	2-9-3,6-3, 18-1		
RV2	9-1	RV4	10-3
RV3	10-3	RV5	10-1
S1; Y/C DELAY Switch	2-9-3,6-3		
S2; Chroma SHIFT/INV Switch	2-9-3,6-3		

IV-4A Board

IV-4A Board	Section		Section
RV1	19-2	RV4	8-1
RV2	19-3	RV5	19-4
RV3	8-3	RV6	8-2

PW-91A Board

RV71	7-1-3	RV111	7-1-3
RV72	7-1-2	RV131	7-1-3
RV91	7-1-3	RV132	7-1-2
RV92	7-1-2	RV151	7-1-2

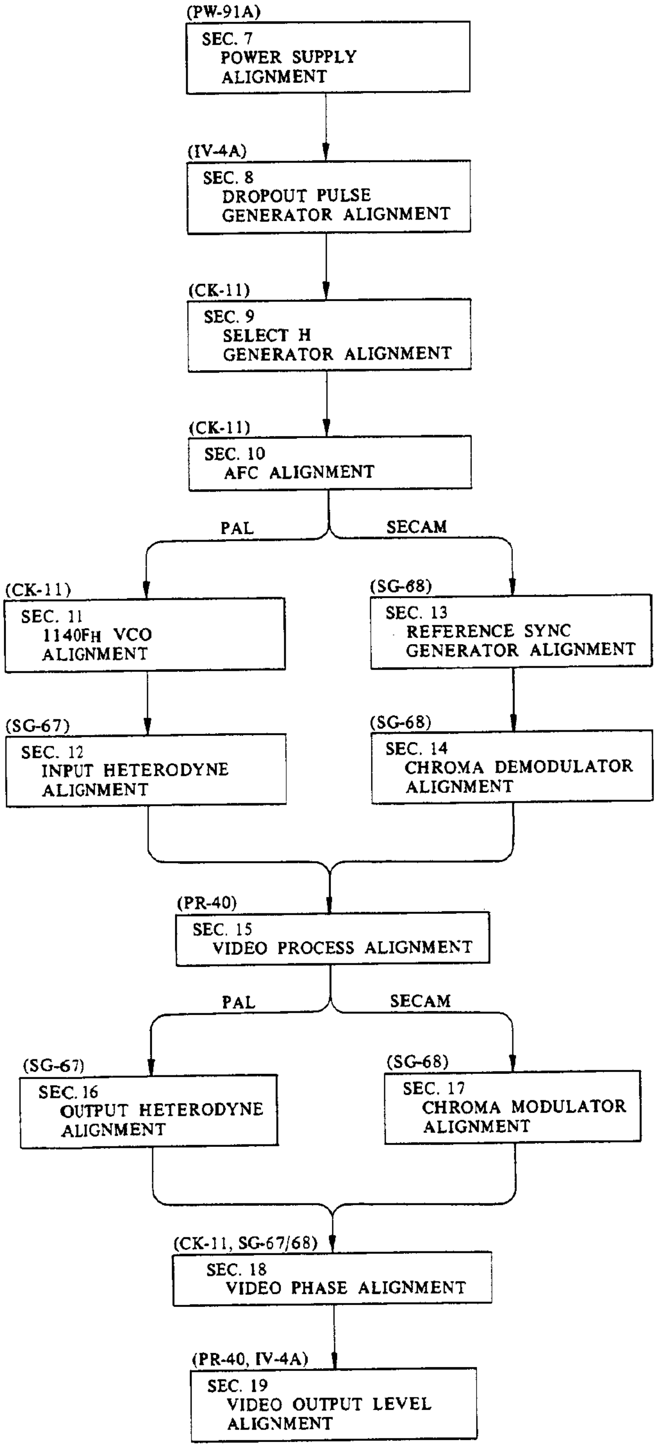
CT-29 Board

RV201	7-2
RV202	7-1-1

Connector Panel

SW1; 75-ohm ON/OFF Switch	1-2-2,2-9-5, 6-3
SW3; COMP/NON COMP Switch	1-2-2,2-9-5, 6-3

5-2. ALIGNMENT FLOW CHART


(PW-91A)
SEC. 7 POWER SUPPLY ALIGNMENT
(IV-4A)
SEC. 8 DROPOUT PULSE GENERATOR ALIGNMENT
(CK-11)
SEC. 9 SELECT H GENERATOR ALIGNMENT
(CK-11)
SEC. 10 AFC ALIGNMENT
PAL
SECAM
(CK-11)
SEC. 11 1140FH VCO ALIGNMENT
(SG-68)
SEC. 13 REFERENCE SYNC GENERATOR ALIGNMENT
(SG-67)
SEC. 12 INPUT HETERODYNE ALIGNMENT
(SG-68)
SEC. 14 CHROMA DEMODULATOR ALIGNMENT
(PR-40)
SEC. 15 VIDEO PROCESS ALIGNMENT
PAL
SECAM
(SG-67)
SEC. 16 OUTPUT HETERODYNE ALIGNMENT
(SG-68)
SEC. 17 CHROMA MODULATOR ALIGNMENT
(CK-11, SG-67/68)
SEC. 18 VIDEO PHASE ALIGNMENT
(PR-40, IV-4A)
SEC. 19 VIDEO OUTPUT LEVEL ALIGNMENT

5-3. BOARD REPLACEMENT AND ADJUSTMENT

When the following circuit board has been replaced, the relative adjustments must be performed.

Board	Required Adjustment
SG-67	(1) 16-5. Burst Width & Level Adjustment (2) 18-1. Video Phase Adjustment (3) 18-2. Y/C Delay Adjustment (4) 19-1. Output Y Level & Chroma Level Adjustment
SG-68	(1) 14-7. Demodulator Output Level Adjustment (2) 17-6. Modulator Input Level Adjustment (3) 18-1. Video Phase Adjustment (4) 18-3. Y/C Delay Preset Adjustment (5) 19-1. Output Y Level & Chroma Level Adjustment
PR-40	(1) 19-1. Output Y Level & Chroma Level Adjustment
CK-11	(1) 18-1. Video Phase Adjustment (2) 18-2. Y/C Delay Adjustment (For PAL Model) (3) 18-3. Y/C Delay Preset Adjustment (For SECAM Model)
IV-4A	(1) 19-3. Normal Video Output Level Adjustment (2) 19-4. Video Output Sync Level Adjustment

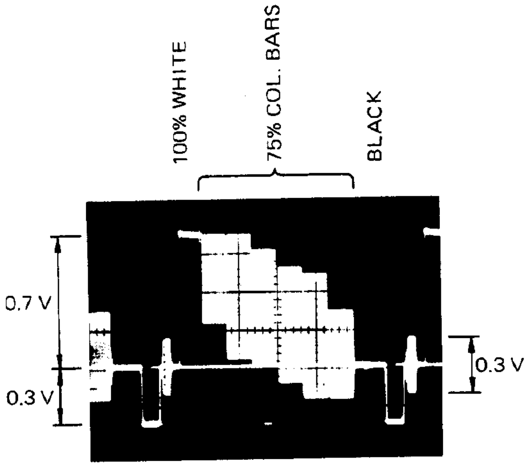
SECTION 6
PREPARATION FOR ALIGNMENT

6-1. TEST EQUIPMENT

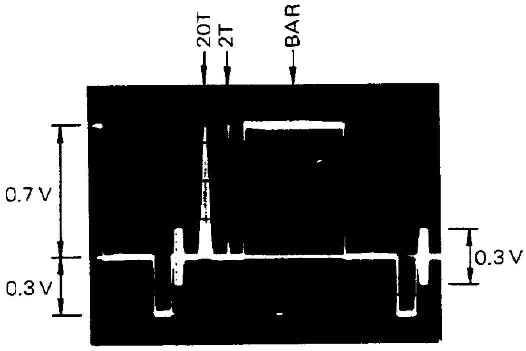
(1) PAL Test Signal Generator
TEKTRONIX Type 1411 or Equivalent

Test Signal Module	SYNC GENERATOR	SPG12
	COLOR BAR GEN.	TSG11
	PULSE & BAR GEN.	TSG15
	LINEARITY	TSG13
	SWEEP GEN.	TSG16

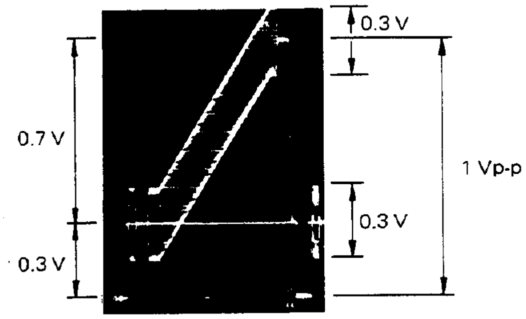
PAL Color Bars



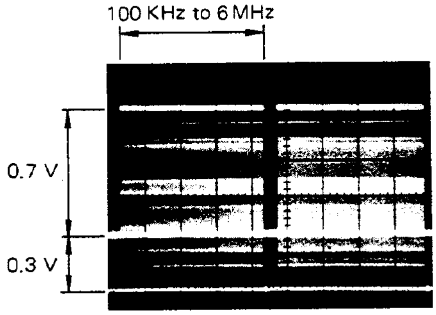
PAL Pulse & Bar



PAL Ramp Linearity

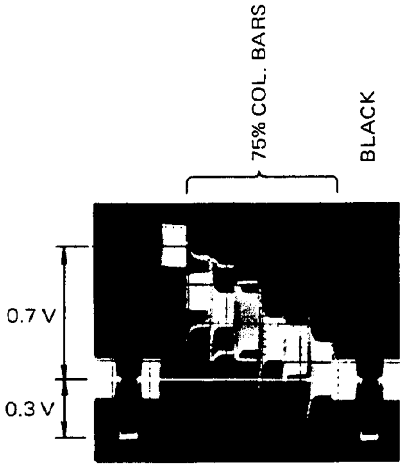


PAL Sweep



(2) SECAM Test Signal Generator
TEKTRONIX Type 143 or Equivalent

SECAM Color Bars



(3) Oscilloscope and Probe Adapter

Oscilloscope
Band Width: 200 MHz
TEKTRONIX 475 or Equivalent

Probe Adapter
Probe tip for grounding
TEKTRONIX Part No. 013-0085-00

(4) Waveform Monitor
TEKTRONIX 1485C or Equivalent
Used for the following alignments.
Section 18. Video Phase Alignment
Section 19. Video Output Level Alignment

(5) Vectorscope
TEKTRONIX 521A or Equivalent
Used for the following alignments.
Section 16. Output Heterodyne Alignment

(6) **Digital DC Voltmeter**
Effective digits; more than 4½ digits.
Accuracy; Less than 0.02% ± 1 count
Used for the following alignments.
Section 7. Power Supply Alignment
Section 13. Reference Sync Generator Alignment
Section 15. Video Process Alignment
Section 17. Chroma Modulator Alignment

(7) **DC Current Meter**
10A range
Used for Section 7. Power Supply Alignment

(8) **VTR**
SONY BVU-800P/S, 820P/S
Used for the following alignments.
Section 10. AFC Alignment
Section 11. 1140F_H VCO Alignment
Section 14. Chroma Demodulator Alignment
Section 15. Video Process Alignment
Section 16. Output Heterodyne Alignment

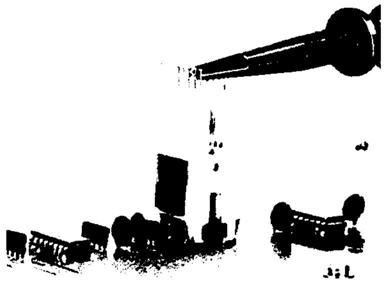
(9) **Standard Signal Generator**
Sine wave, 5 MHz
Used for Section 8. Dropout Pulse Generator Alignment

(10) **Frequency Counter**
Used for the following alignments.
Section 13. Reference Sync Generator Alignment
Section 14. Chroma Demodulator Alignment

(11) **EB-9A Extension Board**
SONY Part No. A-6252-050-A
One EB-9A is supplied with BVT-800PS.

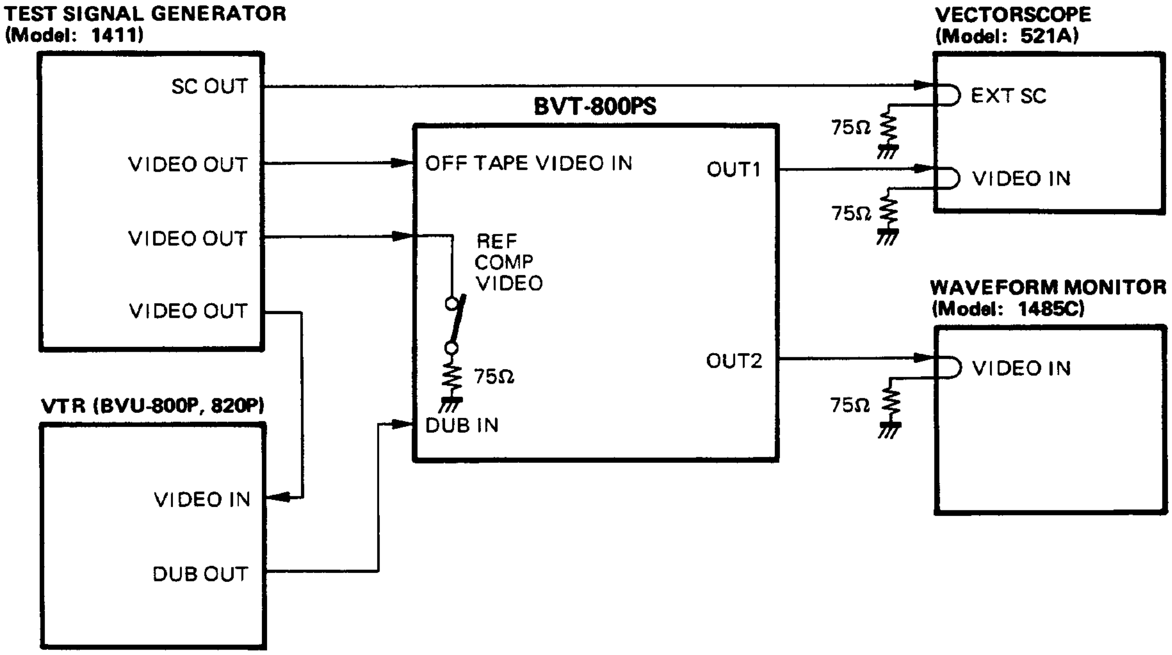
(12) **IC Test Clip**
Type TC-16 Sony Part No. J-6041-770-A
Type TC-20 Sony Part No. J-6041-780-A
Manufacturer;
AP PRODUCTS INCORPORATED
Box 697 72 Corwin Drive
Painesville, Ohio 44077, USA
TEL; 216-354-2101

When connecting the test probe to the terminal of DIP integrated circuit, these clips are convenient. Type TC-16 is for DIP 14-pin or 16-pin IC and Type TC-20 is for 18-pin or 20-pin IC.



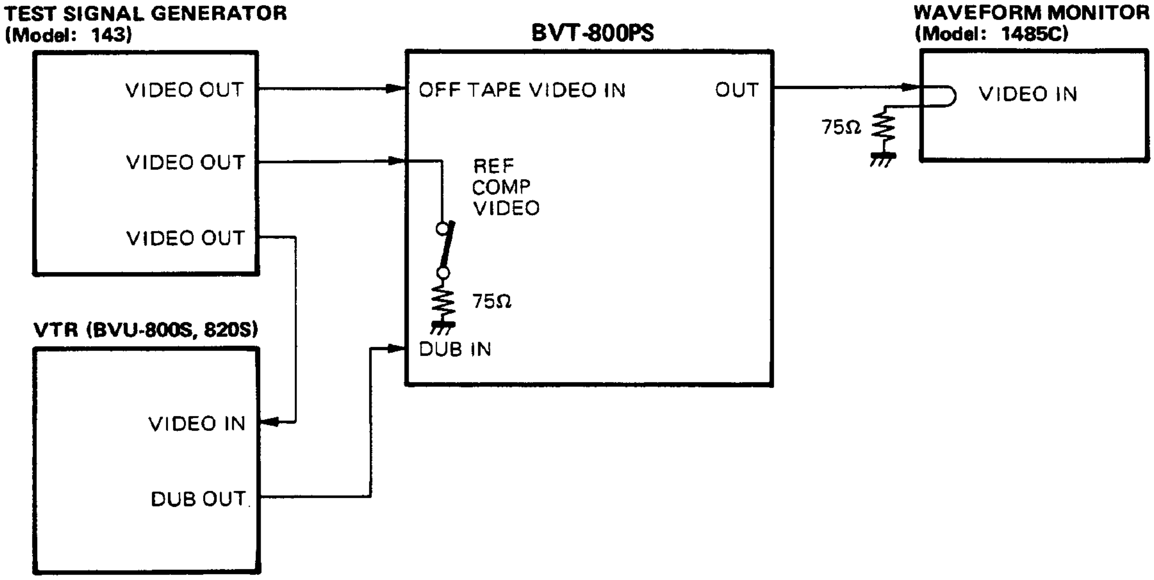
6-2. EQUIPMENT CONNECTION

Connection 1.



TEST SIGNAL GENERATOR (Model: 1411)
SC OUT
VIDEO OUT
VIDEO OUT
VIDEO OUT
VTR (BVU-800P, 820P)
VIDEO IN
DUB OUT
BVT-800PS
OFF TAPE VIDEO IN
REF COMP VIDEO
75Ω
DUB IN
OUT1
OUT2
75Ω
75Ω
75Ω
VECTORSCOPE (Model: 521A)
EXT SC
VIDEO IN
WAVEFORM MONITOR (Model: 1485C)
VIDEO IN

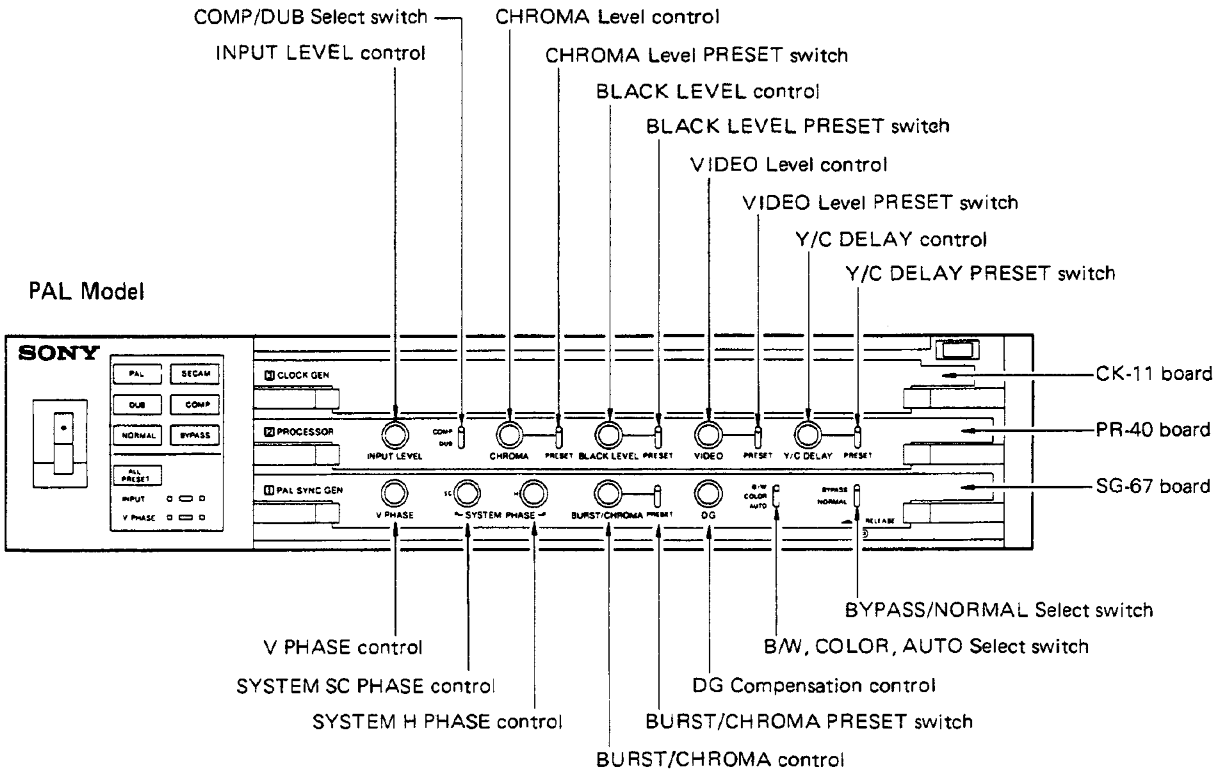
Connection 2.



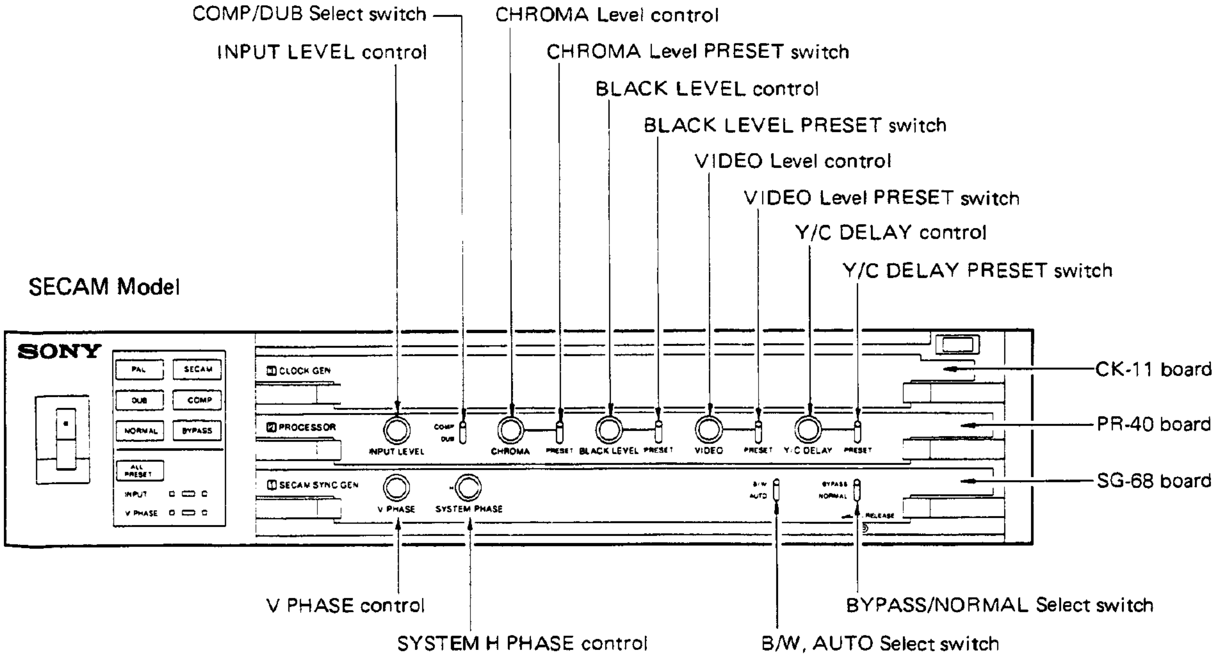
TEST SIGNAL GENERATOR (Model: 143)
VIDEO OUT
VIDEO OUT
VIDEO OUT
VTR (BVU-800S, 820S)
VIDEO IN
DUB OUT
BVT-800PS
OFF TAPE VIDEO IN
REF COMP VIDEO
75Ω
DUB IN
OUT
75Ω
WAVEFORM MONITOR (Model: 1485C)
VIDEO IN

6-3. INITIAL SETTING OF SWITCHES & CONTROLS

PAL Model

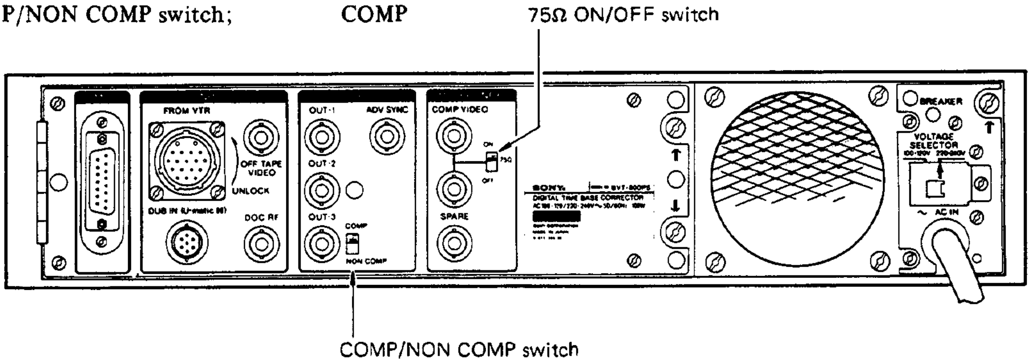

COMP/DUB Select switch
INPUT LEVEL control
CHROMA Level control
CHROMA Level PRESET switch
BLACK LEVEL control
BLACK LEVEL PRESET switch
VIDEO Level control
VIDEO Level PRESET switch
Y/C DELAY control
Y/C DELAY PRESET switch
SONY
PAL
SECAM
DUB
COMP
NORMAL
BYPASS
ALL PRESET
INPUT
V PHASE
CLOCK GEN
PROCESSOR
PAL SYNC GEN
INPUT LEVEL
CHROMA
PRESET
BLACK LEVEL
VIDEO
Y/C DELAY
V PHASE
SYSTEM PHASE
BURST/CHROMA
DG
B/W
COLOR
AUTO
BYPASS
NORMAL
RELEASE
CK-11 board
PR-40 board
SG-67 board
BYPASS/NORMAL Select switch
B/W, COLOR, AUTO Select switch
V PHASE control
SYSTEM SC PHASE control
SYSTEM H PHASE control
DG Compensation control
BURST/CHROMA PRESET switch
BURST/CHROMA control

SECAM Model


COMP/DUB Select switch
INPUT LEVEL control
CHROMA Level control
CHROMA Level PRESET switch
BLACK LEVEL control
BLACK LEVEL PRESET switch
VIDEO Level control
VIDEO Level PRESET switch
Y/C DELAY control
Y/C DELAY PRESET switch
SONY
PAL
SECAM
DUB
COMP
NORMAL
BYPASS
ALL PRESET
INPUT
V PHASE
CLOCK GEN
PROCESSOR
SECAM SYNC GEN
INPUT LEVEL
CHROMA
PRESET
BLACK LEVEL
VIDEO
Y/C DELAY
V PHASE
SYSTEM PHASE
B/W
AUTO
BYPASS
NORMAL
RELEASE
CK-11 board
PR-40 board
SG-68 board
V PHASE control
SYSTEM H PHASE control
BYPASS/NORMAL Select switch
B/W, AUTO Select switch

Connector Panel

SW1, 75Ω ON/OFF switch;	ON
SW3, COMP/NON COMP switch;	COMP


75Ω ON/OFF switch
FROM VTR
OFF TAPE VIDEO
UNLOCK
DUB IN
DOC RF
OUT-1
ADV SYNC
OUT-2
OUT-3
COMP
NON COMP
COMP VIDEO
ON
75Ω
OFF
SPARE
SONY
DIGITAL TIME BASE CORRECTOR
BVT-800PS
BREAKER
VOLTAGE SELECTOR
AC IN
COMP/NON COMP switch

SG-67 Board

S1, BURST/CHROMA PRESET Switch;	PRESET
S2, B/W, COLOR, AUTO Select Switch;	AUTO
S3, BYPASS/NORMAL Select Switch;	NORMAL
S4, Local/Remote Select Switch;	Local
S5 S6 } V Blanking Line Select Switch; S7	All set to ON
S200, Chroma O/E Inertia Select Switch;	OFF
S500, Burst ON/OFF Switch;	OFF

RV1, V PHASE Control;
When using the VTR, adjust so that the green lamp on the V PHASE indicator can light up. When not using the VTR, the position is free.

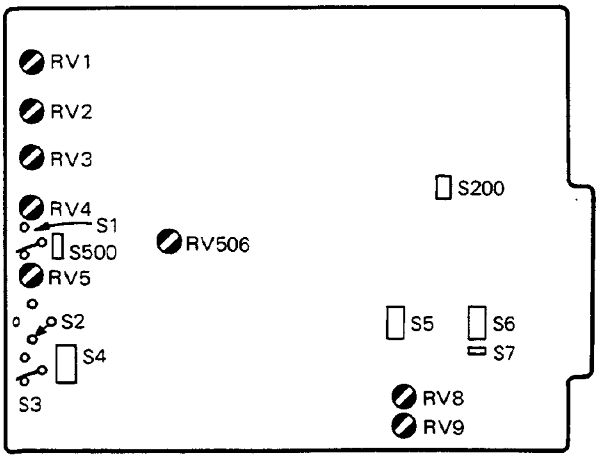
RV2, SYSTEM SC PHASE Control;	Free
RV3, SYSTEM H PHASE Control;	Free
RV4, BURST/CHROMA Control;	Free
RV5, DG Compensation Control;	Midrange
RV8, Front Porch Width Control;	Free
RV9, Line Blanking Width Control;	Free
RV506, Burst Width Adjustment Control;	Free

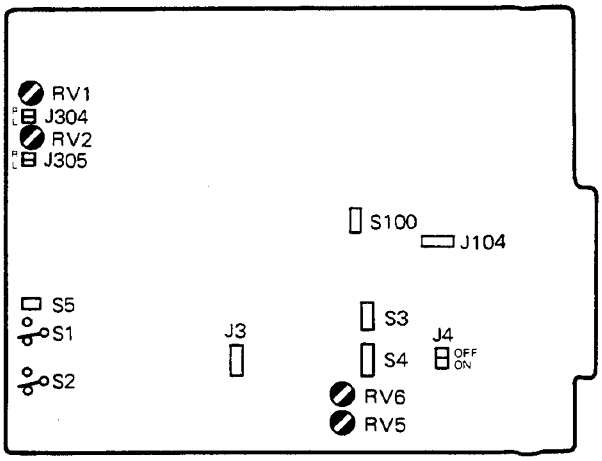
SG-68 Board

S1, B/W, AUTO Select Switch;	AUTO
S2, BYPASS/NORMAL Select Switch;	NORMAL
S3 S4 } V Blanking Line Select Switch;	All set to ON
S5, ID ON/OFF Switch;	ON
S100, Chroma O/E Inertia Select Switch;	OFF

RV1, V PHASE Control;
When using the VTR, adjust so that the green lamp on the V PHASE indicator can light up. When not using the VTR, the position is free.

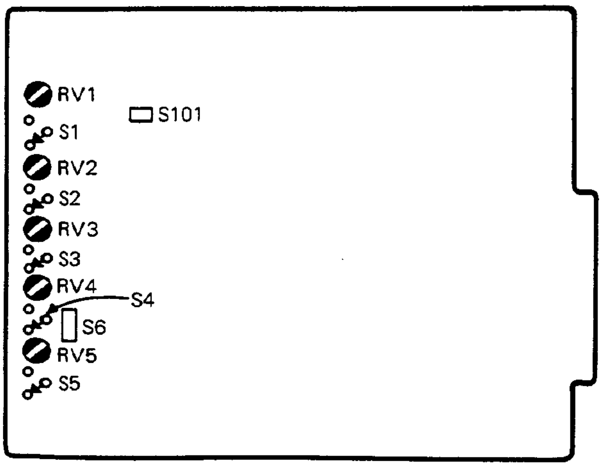
RV2, SYSTEM H PHASE Control;	Free
RV5, Chrominance SC Blanking Width Control;	Free
RV6, Line Blanking Width Control;	Free
J3, D'R/D'B INT/EXT Select Jumper;	INT
J4, Chrominance SC Blanking ON/OFF Jumper;	OFF
J104, NOR/ADJ Select Jumper;	NOR
J304, Local/Remote Select Jumper;	Local
J305, Local/Remote Select Jumper;	Local


RV1
RV2
RV3
RV4
S1
S500
RV506
RV5
S2
S4
S3
S200
S5
S6
S7
RV8
RV9


RV1
J304
RV2
J305
S100
J104
S5
S1
S2
J3
S3
S4
J4
OFF
ON
RV6
RV5

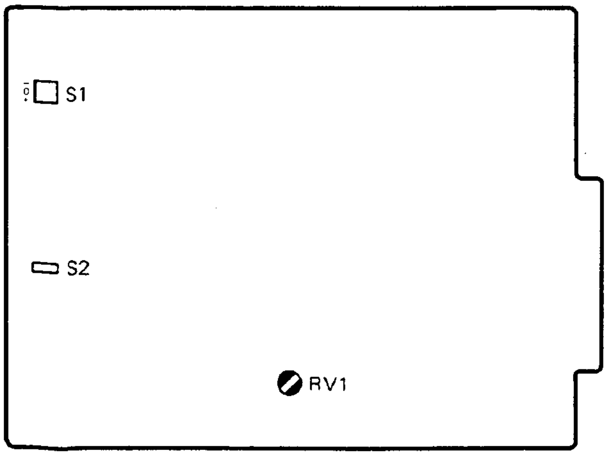
PR-40 Board

S1, COMP/DUB Select Switch;	Free
S2, CHROMA Level PRESET Switch;	PRESET
S3, BLACK LEVEL PRESET Switch;	PRESET
S4, VIDEO Level PRESET Switch;	PRESET
S5, Y/C DELAY PRESET Switch;	PRESET
S6, LOCAL/REMOTE Select Switch;	LOCAL
S101, DUB Mode Release Switch;	ON
RV1, INPUT LEVEL Control; Adjust so that the green lamp on the INPUT indicator can light up.	
RV2, CHROMA Level Control;	Free
RV3, BLACK LEVEL Control;	Free
RV4, VIDEO Level Control;	Free
RV5, Y/C DELAY Control;	Free



CK-11 Board

S1, Y/C DELAY Switch;	"0" position
S2, Chroma SHIFT/INV Switch;	SHIFT
RV1, Video Phase Control;	Free



SECTION 7
POWER SUPPLY ALIGNMENT

CAUTION
If the output voltage of the regulated power supply is out of specifications, the BVT-800PS may not operate properly. If necessary, perform the following adjustments.

7-1. POWER SUPPLY ADJUSTMENT WITHOUT LOAD

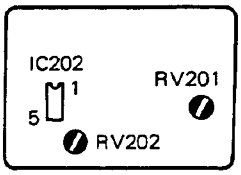
CAUTION
Remove the following circuit boards from the MB-35 board before performing each power supply adjustment.

1) PR-40 Board (Remove the board from the MB-35 board.)
2) CK-11 Board (Remove the board from the MB-35 board.)
3) IV-4A Board (Remove the CN22 connector.)
4) DP-24A Board (Remove the CN6 connector on the MB-35 board.)

7-1-1. Switching Pulse Duty Adjustment without Load

Equipment; Digital DC Voltmeter

Adjustment
CT-29 Board
IC202 pin 1 = +5.00±0.05 Vdc
⊘ RV202

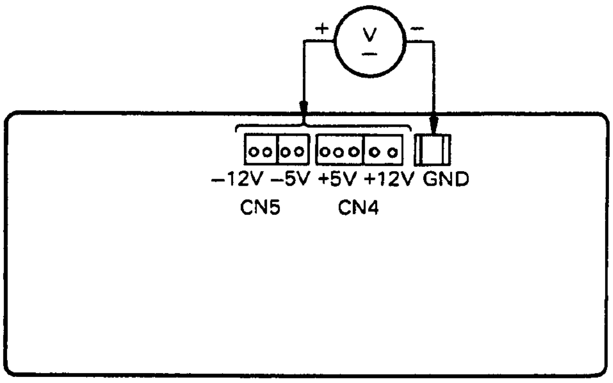


CT-29 Board
– solder side –

7-1-2. Voltage Adjustment without Load

Equipment; Digital DC Voltmeter

Caution
Insert the probe of the DC voltmeter into the terminal pin of the CN4 or CN5 connector and ground the GND tab.



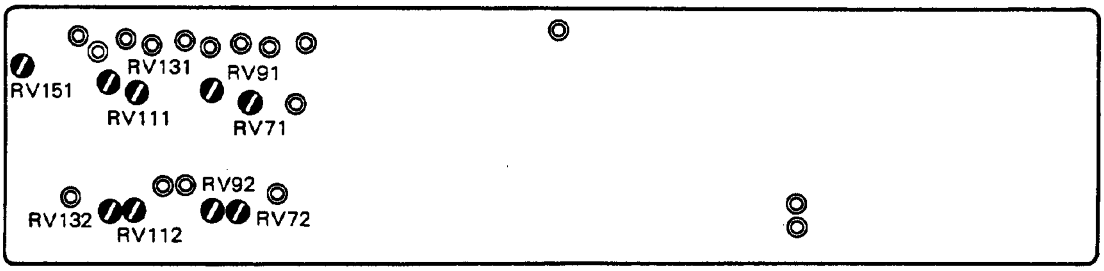
MB-35 Board – solder side –

Step 1. +12 V Adjustment
MB-35 Board: CN4 pin 1 or 2 = +12.0±0.1 Vdc
PW-91A Board: ⊘ RV92

Step 2. +5 V Adjustment
MB-35 Board: CN4 pin 3, 4 or 5 = +5.00±0.05 Vdc
PW-91A Board: ⊘ RV72

Step 3. –5 V Adjustment
MB-35 Board: CN5 pin 1 or 2 = –5.00±0.05 Vdc
PW-91A Board: ⊘ RV151

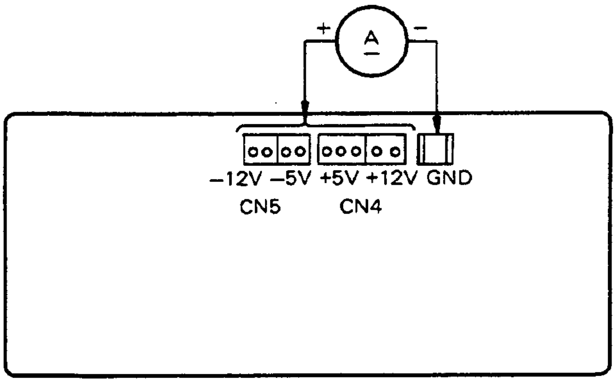
Step 4. –12 V Adjustment
MB-35 Board: CN5 pin 5 or 6 = –12.0±0.1 Vdc
PW-91A Board: ⊘ RV132



PW-91A Board – component side –

7-1-3. Short Current Adjustment without Load

Equipment; DC Current Meter



MB-35 Board — solder side —

Step 1. +12 V Adjustment
MB-35 Board: CN4 pin 1 or 2 = 1.20±0.12A
PW-91A Board: ⊘RV91

Step 2. +5 V Adjustment
MB-35 Board: CN4 pin 3, 4, or 5 = 2.0±0.2A
PW-91A Board: ⊘RV71

Step 3. −5 V Adjustment
MB-35 Board: CN5 pin 1 or 2 = 0.80±0.08A
PW-91A Board: ⊘RV111

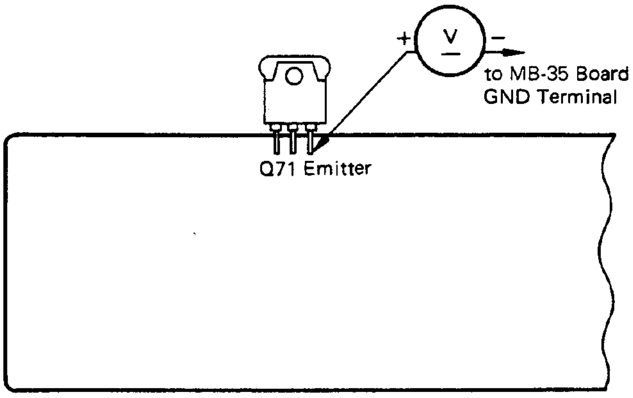
Step 4. −12 V Adjustment
MB-35 Board: CN5 pin 5 or 6 = 0.60±0.06A
PW-91A Board: ⊘RV131

CAUTION

Connect each circuit board to the MB-35 board after performing the above power supply adjustment.

7-2. REGULATOR OUTPUT VOLTAGE ADJUSTMENT WITH LOAD

Equipment; Digital DC Voltmeter



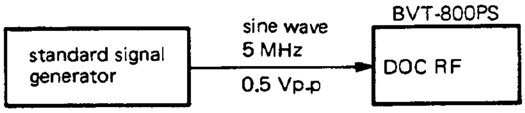
PW-91A Board — component side —

Adjustment
PW-91A Board: Q71 emitter = +6.00±0.05 Vdc
CT-29 Board: ⊘RV201

SECTION 8
DROPOUT PULSE GENERATOR ALIGNMENT

8-1. RF AGC LEVEL ADJUSTMENT

Connection;

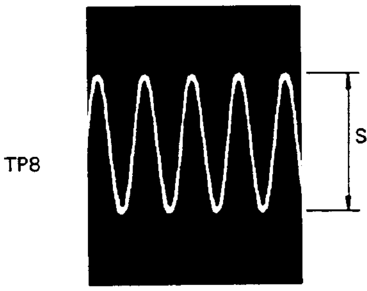

standard signal generator
sine wave
5 MHz
0.5 Vp-p
BVT-800PS
DOC RF

Equipment; Oscilloscope
Input; DC

Switches & Controls Setting;
Same as Section 6-3.

Step 1. Setting of Signal Generator
Frequency; 5 MHz
Amplitude; 0.5 Vp-p
(Measured at TP7 on the IV-4A board.)

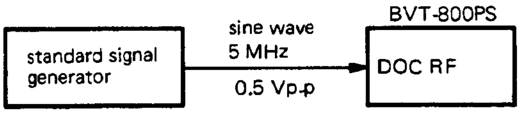
Step 2. Adjustment
IV-4A Board



Spec; 1.50 ± 0.05 V
RV4

8-2. DOC KILLER ADJUSTMENT

Connection;

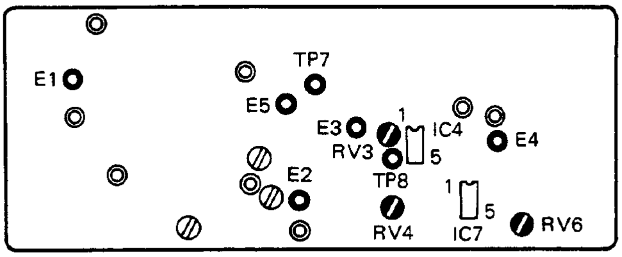

standard signal generator
sine wave
5 MHz
0.5 Vp-p
BVT-800PS
DOC RF

Equipment; Oscilloscope
Input; DC

Switches & Controls Setting;
Same as Section 6-3.

Step 1. Setting of Signal Generator
Frequency; 5 MHz
Amplitude; 0.5 Vp-p
(Measured at TP7 on the IV-4A board.)

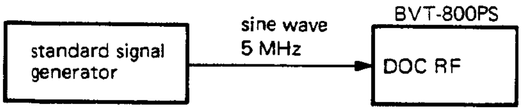
Step 2. Adjustment
IV-4A Board
Spec; IC7 pin 1 < 0 V
IC7 pin 6 = Voltage at IC7 pin 1 x 1.8 Vdc
RV6


TP7
E1
E5
E3
1
IC4
E4
RV3
5
E2
TP8
1
5
RV4
IC7
RV6

IV-4A Board — component side —

8-3. DO LEVEL SENSITIVITY ADJUSTMENT

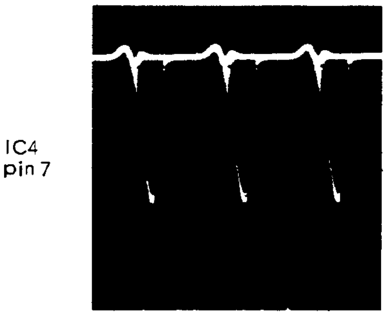
Connection;


standard signal generator
sine wave
5 MHz
BVT-800PS
DOC RF

Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3.

Step 1. Setting of Signal Generator
Frequency; 5 MHz
Amplitude; 0.5 Vp-p
(Measured at TP8 on the IV-4A board.)

Step 2. Adjustment
Turn ⊘ RV3 on the IV-4A board fully clockwise. IC4 pin 7 shows HIGH level (approx. +4 Vdc). Next, turning ⊘ RV3 counterclockwise slowly, the negative pulse appears as shown below. Stop ⊘ RV3 immediately after this pulse appears.

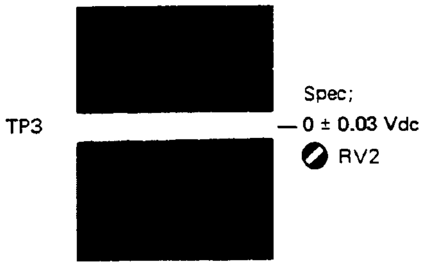


SECTION 9
SELECT H GENERATOR ALIGNMENT

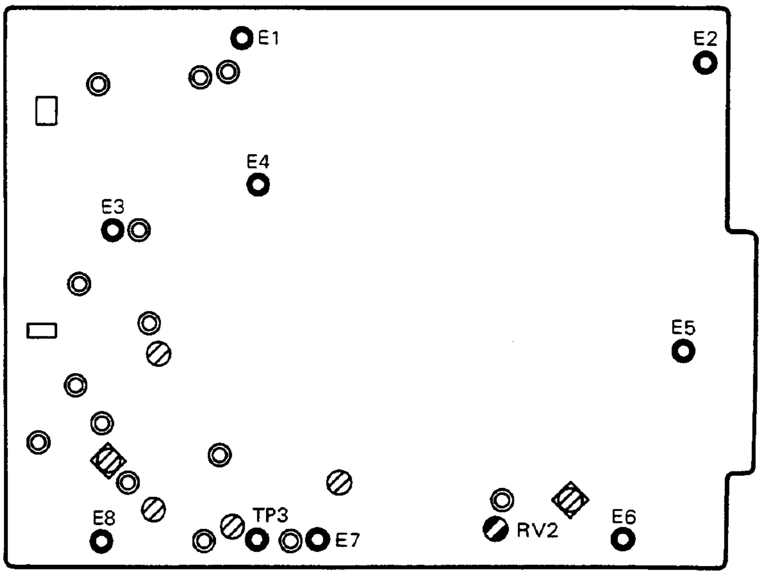
9-1. SELECT H GENERATOR ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment
CK-11 Board



Spec;
— 0 ± 0.03 Vdc
RV2



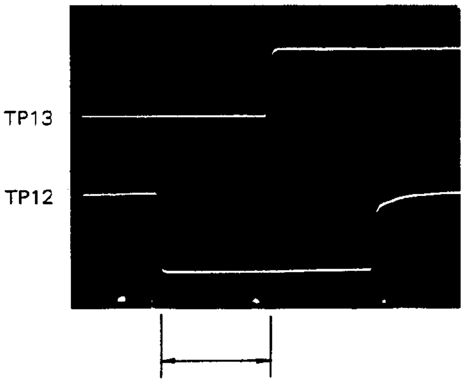
CK-11 Board — component side —

SECTION 10
AFC ALIGNMENT

10-1. SAWTOOTH WAVE SLOPE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment
CK-11 Board



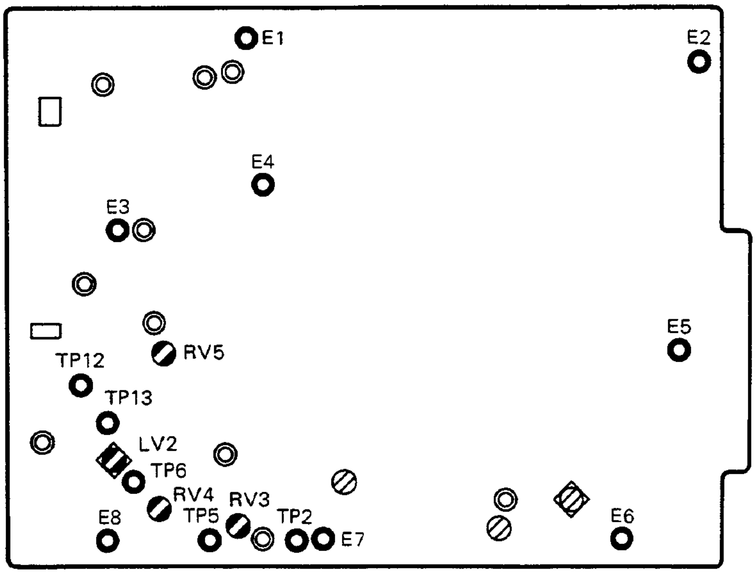
Spec; 550 ± 50 ns
⊘ RV5

10-2. NARROW RANGE VCO ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Step 1. Adjustment
CK-11 Board
Spec; TP6 = –4.0 ± 0.2 Vdc
⊘ LV2

Step 2. Perform "10-1. Sawtooth Wave Slope Adjustment".



CK-11 Board – component side –

10-3. WIDE RANGE VCO ADJUSTMENT

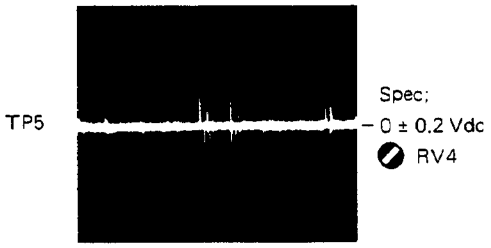
Connection; Same as Section 6-2, Connection 1 or 2
VTR Mode; PLAY → REW
Equipment; Oscilloscope
Input; DC
Switches & Controls setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Step 1. Offset Adjustment (PLAY mode)

Set the VTR to PLAY mode.

CK-11 Board

Short-circuit the TP2 and GND.



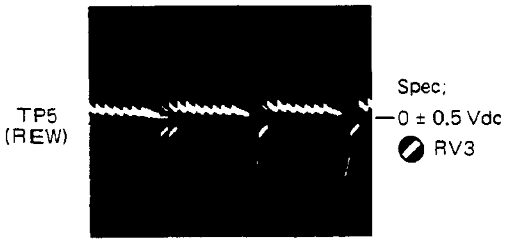
Spec;
0 ± 0.2 Vdc
⊘ RV4

Remove the short circuit between the TP2 and GND.

Step 2. Gain Adjustment (REW mode)

Set the VTR to the REW mode and adjust ⊘ RV3 to obtain the following value.

CK-11 Board



Spec;
0 ± 0.5 Vdc
⊘ RV3

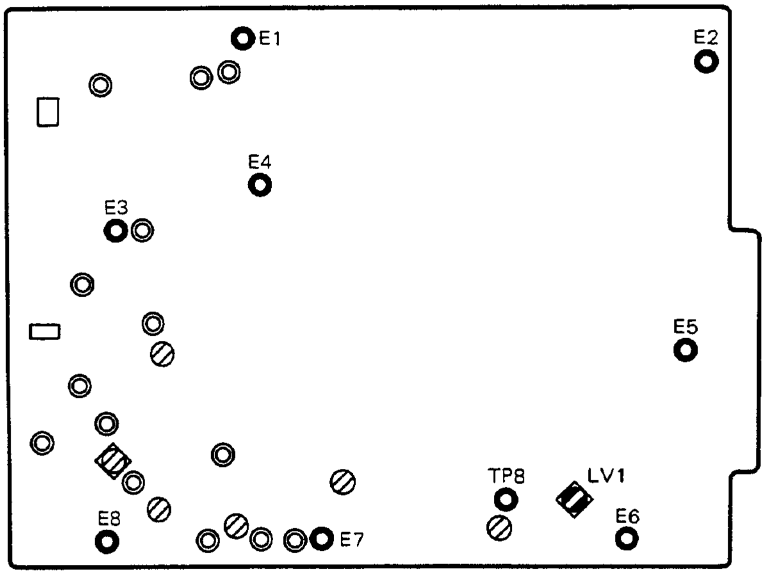
SECTION 11
1140F$_H$ VCO ALIGNMENT (For PAL Model)

11-1. 1140F$_H$ VCO ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (DUB IN);
Color Bars (PAL or SECAM)

Adjustment

Set the VTR to EE mode.
CK-11 Board
Spec; TP8 = −0.5 ± 0.2 Vdc
⊘ LV1



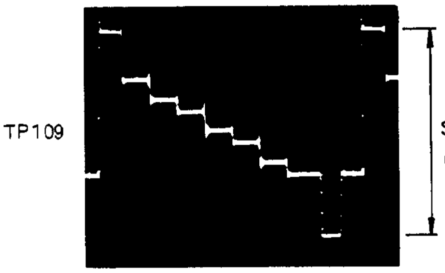
CK-11 Board — component side —

SECTION 12
INPUT HETERODYNE ALIGNMENT (For PAL Model)

12-1. INPUT LEVEL CALIBRATION

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
PR-40 Board

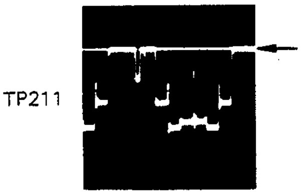


Spec; 2.50 ± 0.05 V
RV1

12-2. BURST DETECTOR ADJUSTMENT

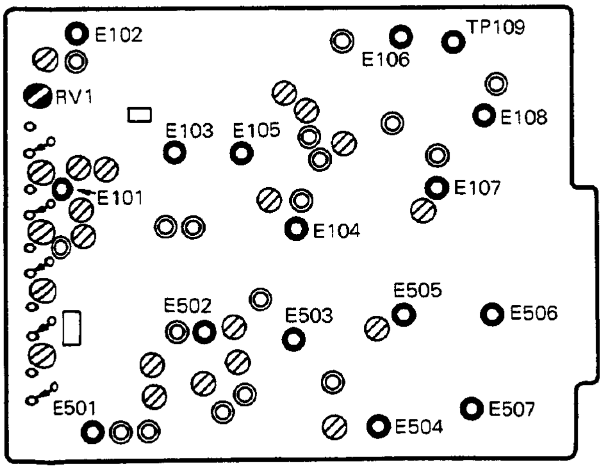
Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board

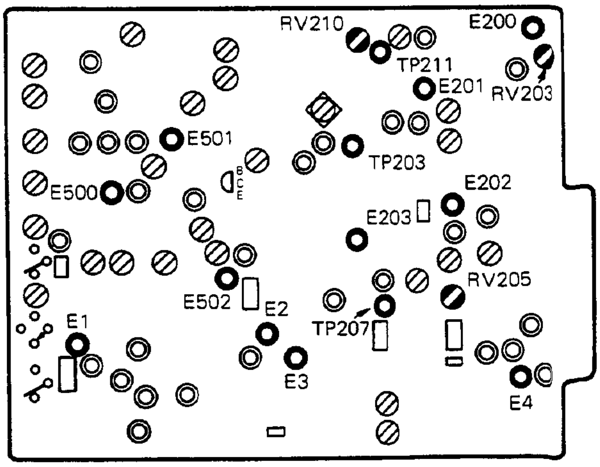


Spec;
0.2 ± 0.2 V
RV210

Caution; This adjustment is applicable only to SG-67 Board with Board No.1-608-858-13 & up.


E102
TP109
E106
RV1
E108
E103
E105
E101
E107
E104
E502
E503
E505
E506
E501
E504
E507

PR-40 Board — component side —

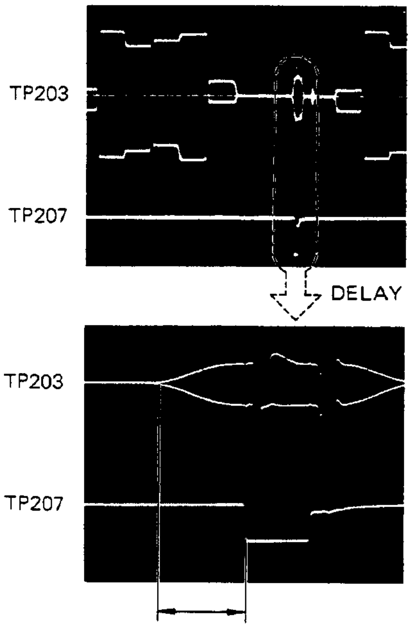

RV210
E200
TP211
E201
RV203
E501
TP203
E500
E202
E203
RV205
E502
E2
TP207
E1
E3
E4

SG-67 Board — component side —

12-3. APC ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board

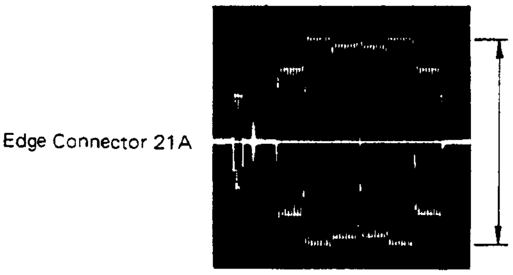


Spec; 1.0 ± 0.2µs
⊘ RV205

12-4. WRITE CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board



Spec;
0.95 ± 0.02 V
⊘ RV203

SECTION 13
REFERENCE SYNC GENERATOR ALIGNMENT (For SECAM Model)

13-1. D'_R/D'_B DETECTOR ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Digital DC Voltmeter
Switches & Controls Setting;
Same as Section 6-3

Step 1. Turn off the SUBCARRIER AMPLITUDE switch of the Model 143 Test Signal Generator.

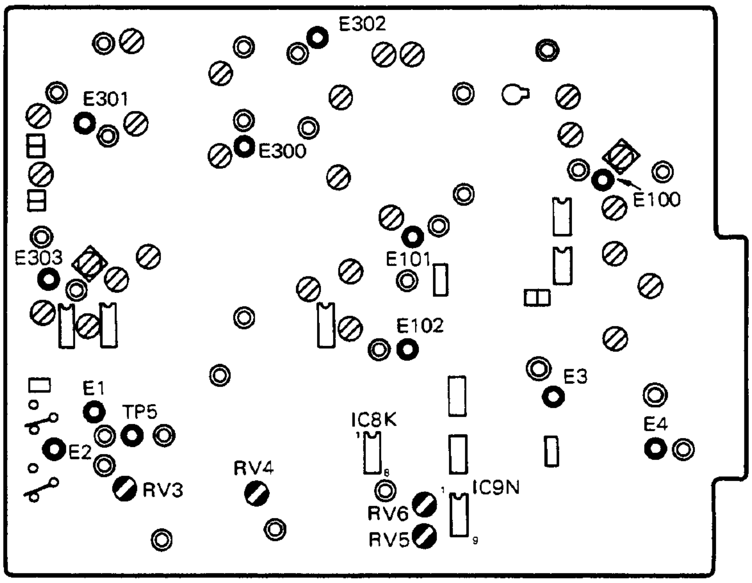
Step 2. **Adjustment**
SG-68 Board
Spec; TP5 = 100 ± 1 mVdc
⊘ RV3

Step 3. Turn on the SUBCARRIER AMPLITUDE switch of the Test Signal Generator.

13-2. INTERNAL REFERENCE FREQUENCY ADJUSTMENT

Connection; Same as Section 6-2, Connection 2 except for the following.
Remove the REF COMP VIDEO IN signal.
Equipment; Frequency Counter
Switches & Controls Setting;
Same as Section 6-3.

Adjustment
SG-68 Board
Spec; IC8K pin 5 = 14,187,500 ± 100 Hz
⊘ RV4

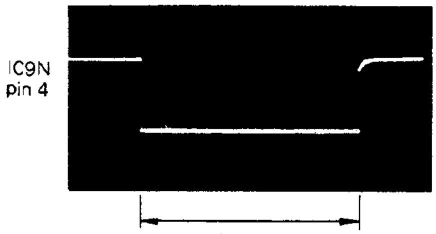


SG-68 Board — component side —

13-3. BLANKING GENERATOR ADJUSTMENT

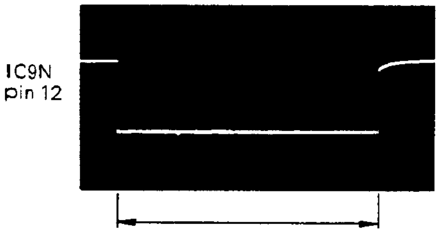
Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Y Blanking Adjustment
SG-68 Board



Spec; 12.00 ± 0.15μs
⊘ RV6

Step 2. C Blanking Adjustment
SG-68 Board



Spec; 7.2 ± 0.1μs
⊘ RV5

SECTION 14
CHROMA DEMODULATOR ALIGNMENT (For SECAM Model)

14-1. FREQUENCY CONVERTER ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Frequency Counter
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (DUB IN);
SECAM Color Bars

Adjustment

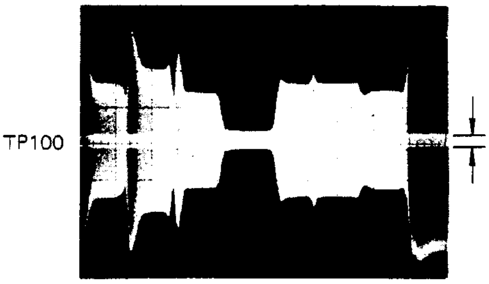
SG-68 Board
Spec; TP103 = 5,244,140 ± 50 Hz
⊘ CV100

14-2. CARRIER NULL ADJUSTMENT

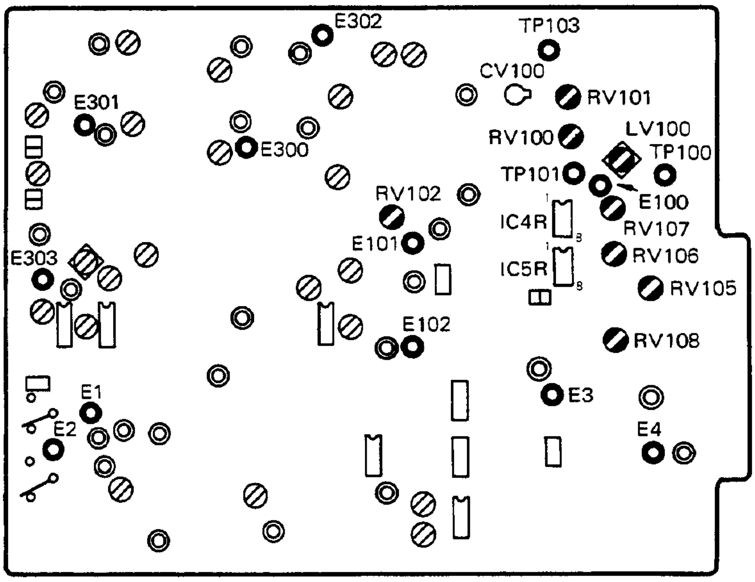
Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (DUB IN);
SECAM Color Bars

Adjustment

SG-68 Board



Spec;
Less than 15 mV
⊘ RV100

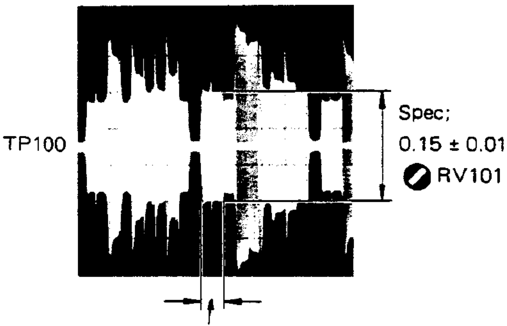

E302
TP103
CV100
RV101
E301
E300
RV100
LV100
TP100
TP101
RV102
E100
IC4R
RV107
E101
E303
RV106
IC5R
RV105
E102
RV108
E1
E3
E2
E4

SG-68 Board — component side —

14-3. DUB CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscopeunter
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (DUB IN);
SECAM Color Bars

Adjustment
SG-68 Board

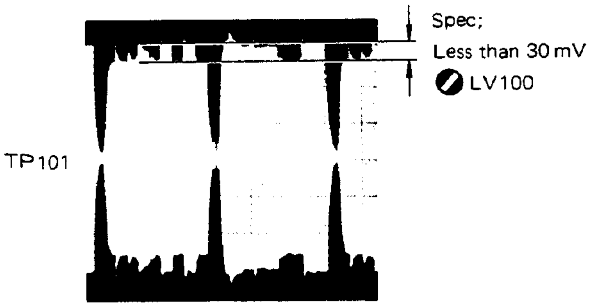


D'R Line Nonmodulation Subcarrier

14-4. BELL FILTER ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

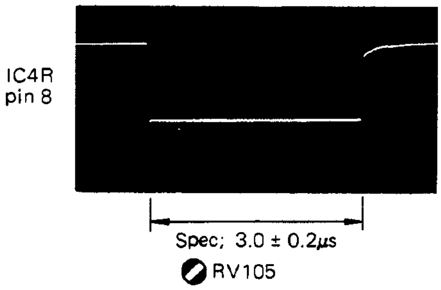
Adjustment
SG-68 Board



14-5. PILOT INSERT WIDTH ADJUSTMENT

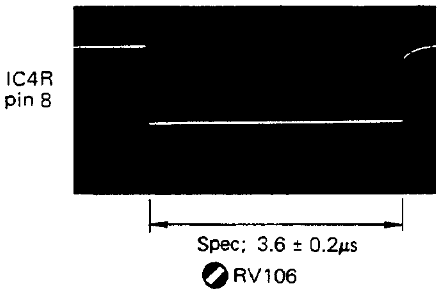
Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Adjustment
SG-68 Board



Step 2. Input the SECAM color bars to the DUB IN connector and set the PR-40 board S1, COMP/DUB switch to DUB.

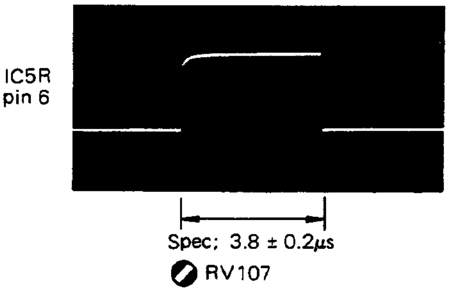
Step 3. Adjustment
SG-68 Board



14-6. WRITE O/E GENERATOR ADJUSTMENT

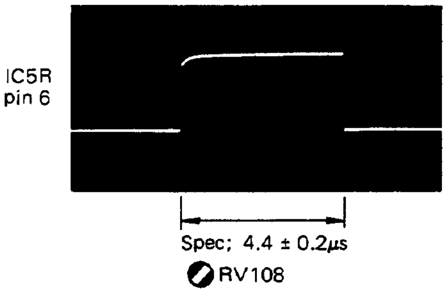
Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Adjustment
SG-68 Board


IC5R
pin 6
Spec; 3.8 ± 0.2µs
RV107

Step 2. Input the SECAM color bars to the DUB IN connector and set the PR-40 board S1, COMP/DUB switch to DUB.

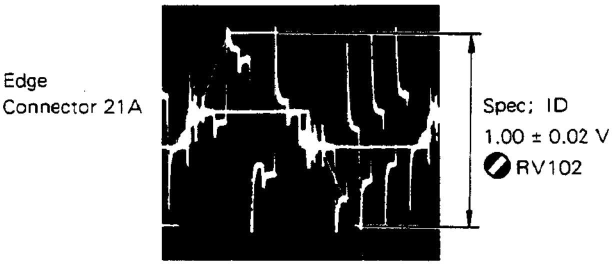
Step 3. Adjustment
SG-68 Board


IC5R
pin 6
Spec; 4.4 ± 0.2µs
RV108

14-7. DEMODULATOR OUTPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

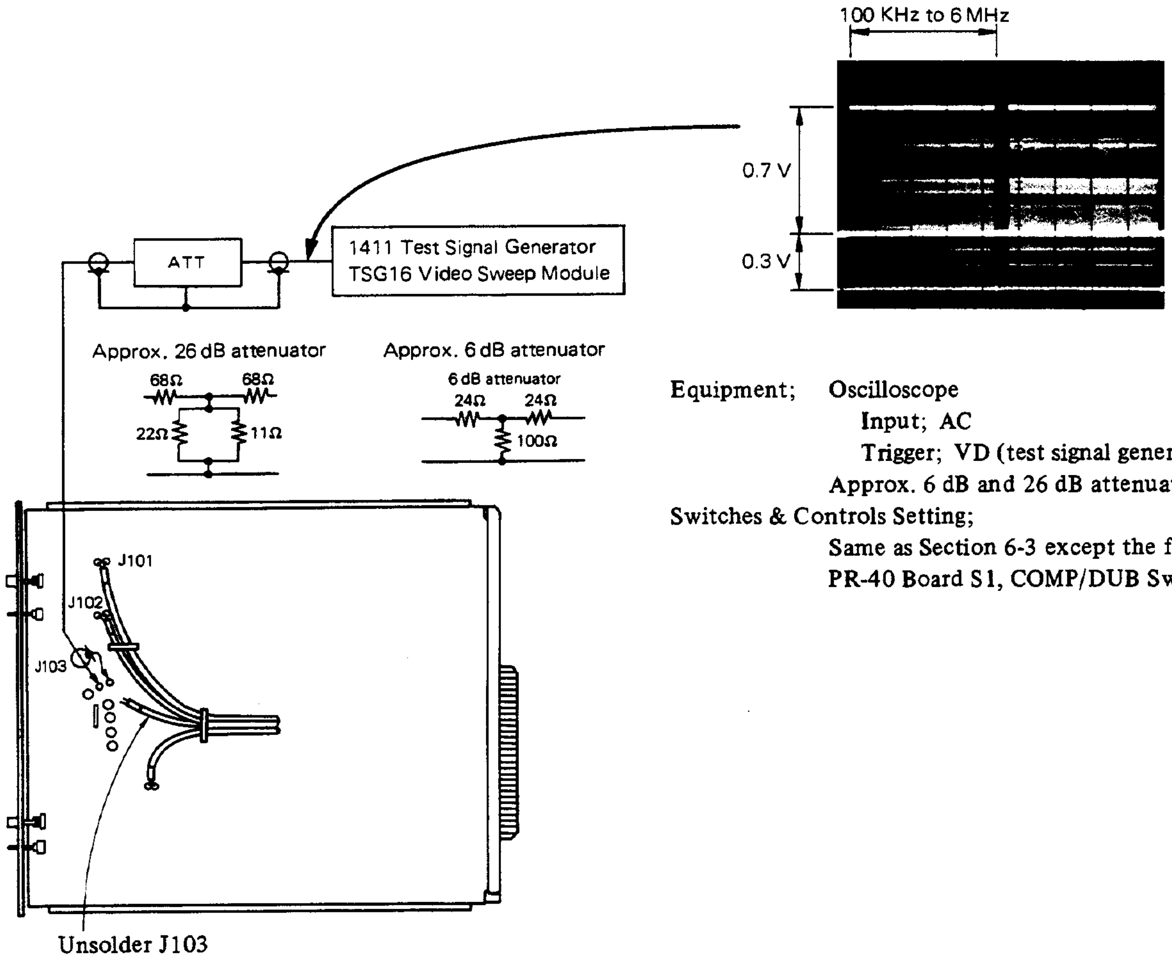
Step 1. Adjustment
SG-68 Board


Edge
Connector 21A
Spec; ID
1.00 ± 0.02 V
RV102

SECTION 15
VIDEO PROCESS ALIGNMENT

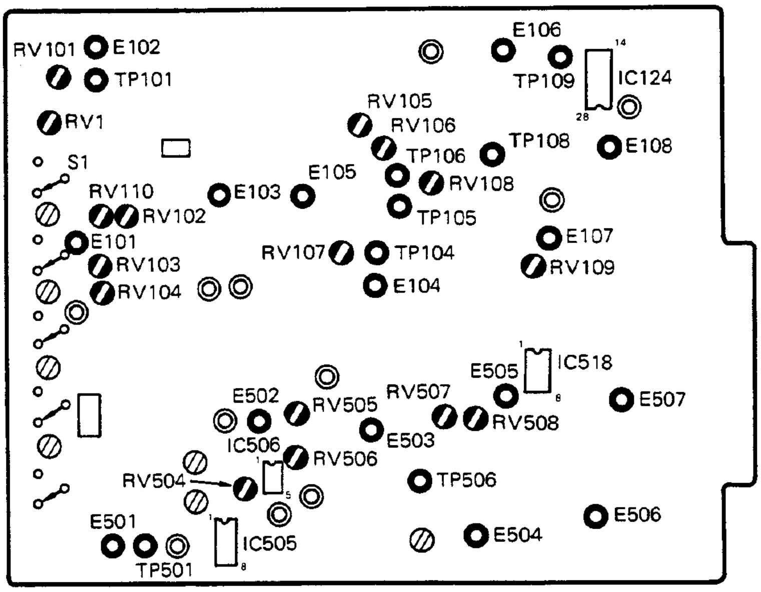
15-1. NOISE CANCELER ADJUSTMENT 1

Connection; Composite sweep signal


100 KHz to 6 MHz
0.7 V
0.3 V
ATT
1411 Test Signal Generator
TSG16 Video Sweep Module
Approx. 26 dB attenuator
68Ω
68Ω
22Ω
11Ω
Approx. 6 dB attenuator
6 dB attenuator
24Ω
24Ω
100Ω
J101
J102
J103
Unsolder J103

Equipment; Oscilloscope
Input; AC
Trigger; VD (test signal generator)
Approx. 6 dB and 26 dB attenuators

Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB


RV101
E102
TP101
RV1
S1
RV110
RV102
E101
RV103
RV104
E103
E105
RV107
TP104
E104
RV105
RV106
TP106
RV108
TP105
TP108
E106
TP109
IC124
14
28
E108
E107
RV109
E502
RV505
IC506
RV506
RV504
E501
TP501
IC505
RV507
E503
E505
IC518
RV508
E507
TP506
E504
E506

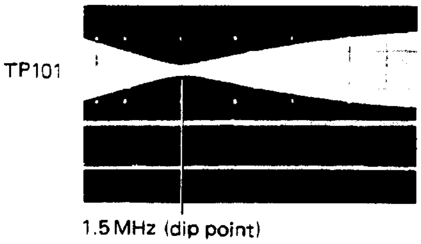
PR-40 Board — component side —

Step 1. Unsolder the J103 jumper leads from the PR-40 board.

Step 2. Supply a sweep signal through approx. 26 dB attenuator to J103 lands.

Step 3. Turn PR-40 board ⊘ RV104 fully counterclockwise.

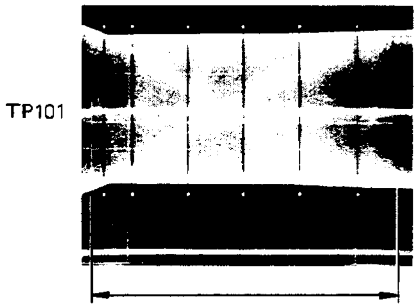
Step 4. **Noise Canceler Adjustment**
PR-40 Board



Spec; Minimize the dip point level.
⊘ RV103

Step 5. Change the attenuator to approx. 6 dB.

Step 6. **Noise Canceler Low-range Compensator Adjustment**
PR-40 Board



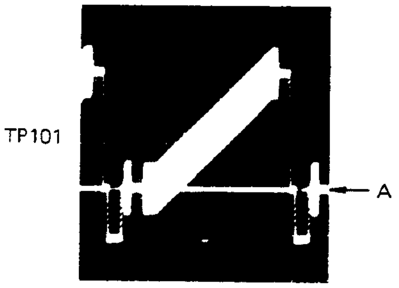
Spec; The frequency response should be flat.
⊘ RV104

Step 7. Remove the attenuator and connect J103 in its place on the PR-40 board.

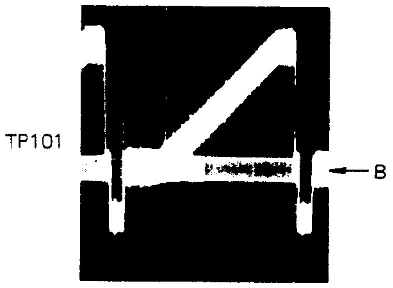
15-2. NOISE CANCELER ADJUSTMENT 2

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal; Lamp linearity 1 Vp-p

Step 1. Memorize "A" level shown below.
PR-40 Board



Step 2. Set the PR-40 board S1, COMP/DUB switch to DUB.
PR-40 Board



Spec; B (in step 2) = A (in step 1)
⊘ RV102

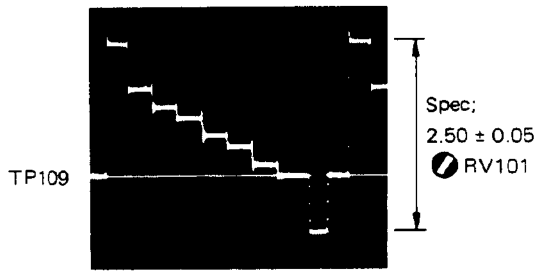
15-3. VIDEO LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Step 1. Match the dot mark on the INPUT LEVEL control (PR-40 board ⊘ RV1) to the center mark on the BVT-800PS front panel.

Step 2. Video Level Adjustment

PR-40 Board

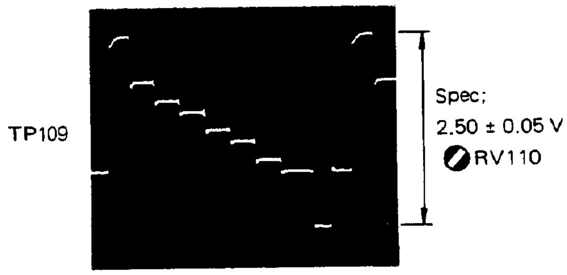


Caution; The following steps should be performed only for the PR-40 board with Board No.1-607-857-12 and up.

Step 3. Input the color bars to the DUB IN connector and set the S1, COMP/DUB switch to DUB.

Step 4. DUB-Y Level Adjustment

PR-40 Board



15-4. A/D CONVERTER REFERENCE VOLTAGE ADJUSTMENT

Equipment; Digital DC Voltmeter
Switches & Controls Setting;
Same as Section 6-3

Adjustment

PR-40 Board
Spec; IC124 pin 28 = −1.98 to −2.00 Vdc
⊘RV108

15-5. INPUT LEVEL INDICATOR CALIBRATION

Equipment; Digital DC Voltmeter
Switches & Controls Setting;
Same as Section 6-3.

Adjustment

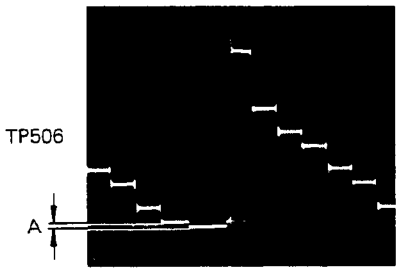
PR-40 Board
Spec; Voltage between TP105 (+) and TP106 (ground) = 112 ± 5 mV
⊘RV105

15-6. Y-PEDESTAL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment

PR-40 Board



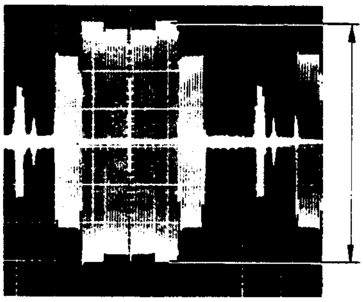
Spec; A = 0
⊘RV106

15-7. WRITE CHROMA LEVEL & WRITE CHROMA PEDESTAL LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (For PAL, test signal generator)
7.8 KHz (For SECAM, test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

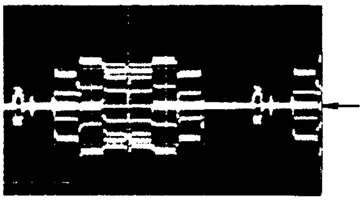
For PAL Model

Step 1. Write Chroma Level Adjustment
PR-40 Board



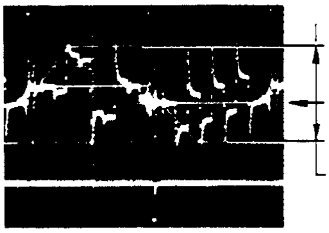
Spec;
1.25 ± 0.05 V
⊘RV107

Step 2. Pedestal Level Adjustment
PR-40 Board



Spec;
−1.00 ± 0.02 Vdc
⊘RV109

For SECAM Model
Adjustment
PR-40 Board



Spec;
D'B = −1.00 ± 0.02 Vdc
⊘RV109
ID = 1.25 ± 0.05 V
⊘RV107

15-8. Y/C DELAY CONTROL CALIBRATION

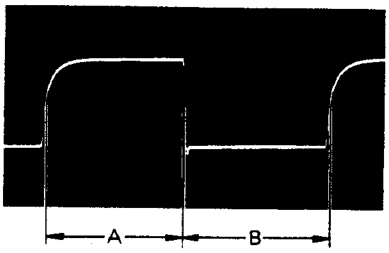
Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

PR-40 Board (1-608-857-11, 12 & 13)

Step 1. Make sure that the following controls are in the midrange.
SG-67 board ⊘ RV208, ⊘ RV209
SG-68 board ⊘ RV103, ⊘ RV104

Step 2. Set the PR-40 board S1, COMP/DUB switch to DUB.

Step 3. Adjustment
PR-40 Board



Spec; A = B
⊘RV508

Caution; The following steps are applicable only up to PR-40 board with Board No. 1-608-857-12.

Step 4. Set the PR-40 board S1, COMP/DUB switch to COMP.

Step 5. Adjustment
PR-40 Board IC518 pin 8: A = B (Refer to step 3.)
⊘RV507

15-9. D/A CHROMA LEVEL ADJUSTMENT

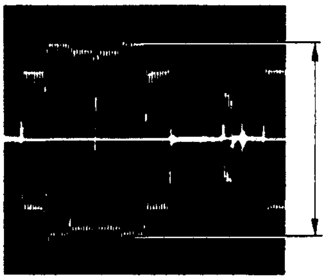
Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (For PAL, test signal generator)
7.8 KHz (For SECAM, test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment

For PAL Model

PR-40 Board

Edge Connector 31B

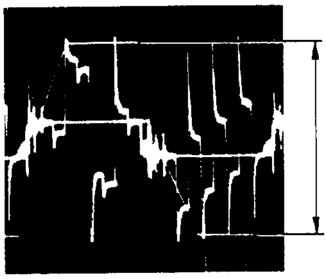


Spec;
0.95 ± 0.05 V
⊘ RV505

For SECAM Model

PR-40 Board

Edge Connector 31B



Spec;
1.00 ± 0.02 V
⊘ RV505

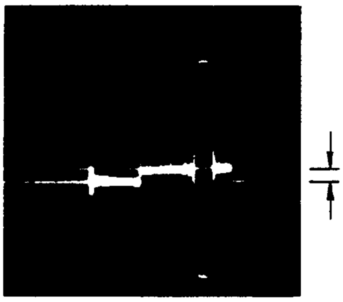
15-10. BLACK LEVEL CONTROL CALIBRATION

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment

PR-40 Board

TP501



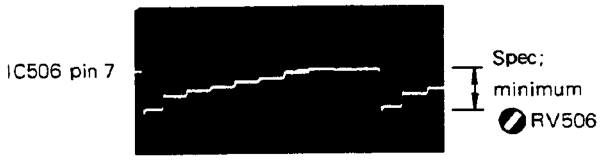
Spec;
0 ± 0.01 V
⊘ RV504

15-11. DG COMPENSATION CONTROL CALIBRATION

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Step 1. For PAL Model
Match the dot mark on the DG compensation control (SG-67 board ⊘ RV5) to the center mark on the BVT-800PS front panel.

Step 2. Adjustment
PR-40 Board

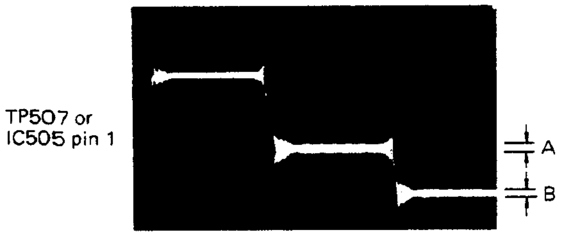


Spec; minimum
⊘ RV506

15-12. CHROMA LEVEL CONTROL CALIBRATION

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Adjustment
PR-40 Board



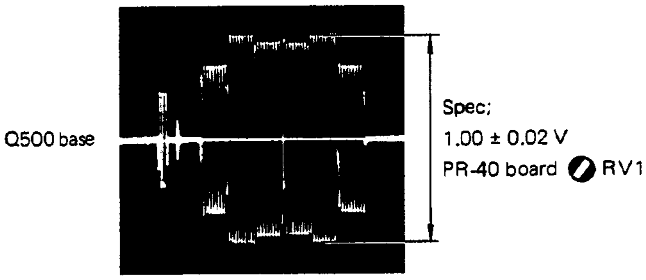
Spec; Chroma leakage (A, B) = minimum
⊘ RV501

SECTION 16
OUTPUT HETERODYNE ALIGNMENT (For PAL Model)

16-1. D/A OUTPUT LEVEL CALIBRATION

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board

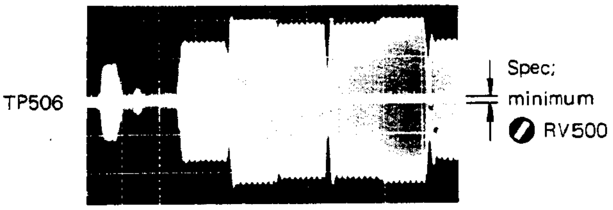


16-2. CARRIER NULL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

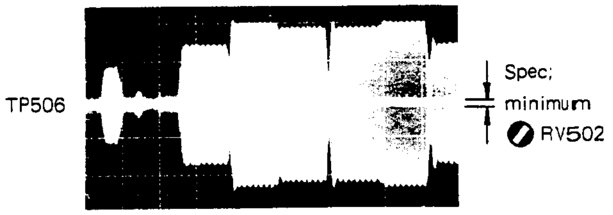
Step 1. Check that the SG-67 board J3 Normal/Test Select Jumper plug has been set.

Step 2. **Adjustment**
SG-67 Board

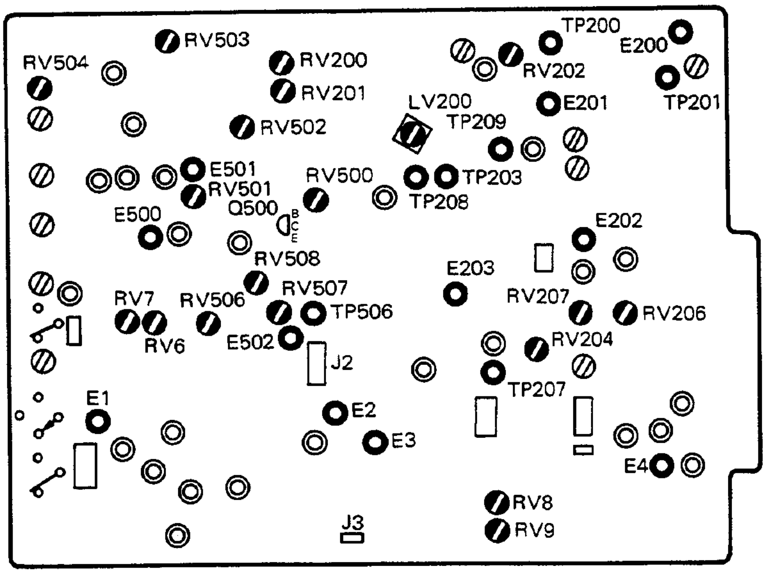


Step 3. Remove the J3 Normal/Test Select Jumper plug.

Step 4. **Adjustment**
SG-67 Board



Step 5. Set the J3 Normal/Test Select Jumper plug again.


RV503
RV504
RV200
RV201
RV502
TP200
E200
RV202
LV200
E201
TP201
TP209
E501
RV501
RV500
TP203
TP208
E500
Q500
B
C
E
RV508
E202
E203
RV7
RV506
RV507
TP506
RV207
RV206
RV6
E502
J2
RV204
TP207
E1
E2
E3
E4
RV8
RV9
J3

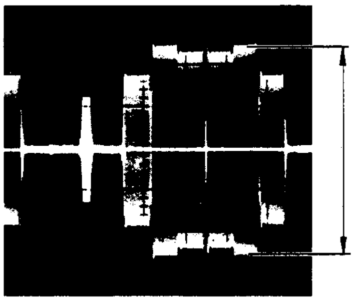
SG-67 Board — component side —

16-3. CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Step 1. Check that the SG-67 board J3 Normal/Test Select Jumper plug has been set.

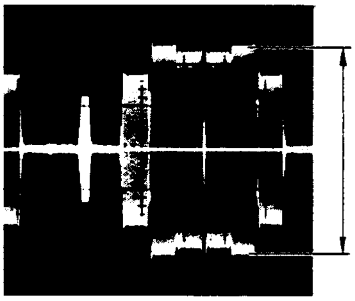
Step 2. Adjustment
SG-67 Board



Spec;
1.00 ± 0.02 V
RV501

Step 3. Remove the J3 Normal/Test Select Jumper plug.

Step 4. Adjustment
SG-67 Board



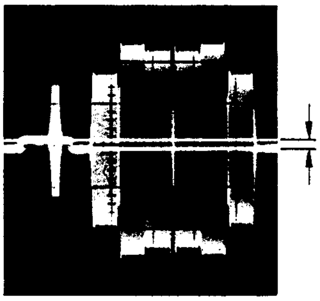
Spec;
1.00 ± 0.02 V
RV503

Step 5. Set the J3 Normal/Test Select Jumper plug again.

16-4. BURST OFFSET ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board

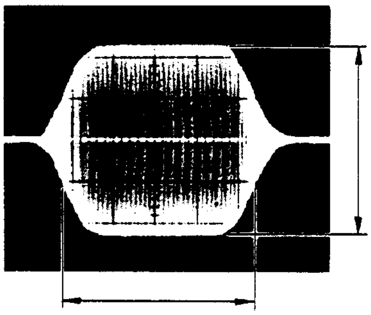


Spec;
0 ± 0.01 V
RV508

16-5. BURST WIDTH & LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board



Spec;
0.45 ± 0.01 V
RV507

Spec; 2.25 ± 0.15µs
RV506

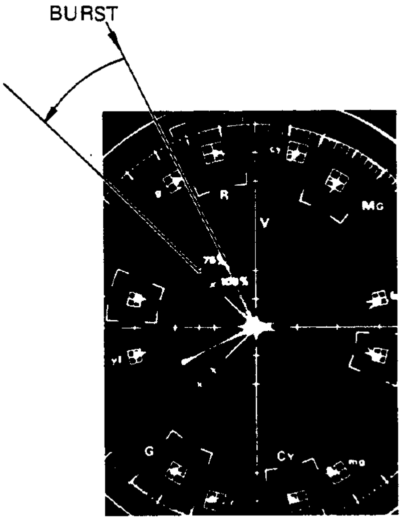
16-6. BURST/CHROMA PHASE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Vectorscope
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

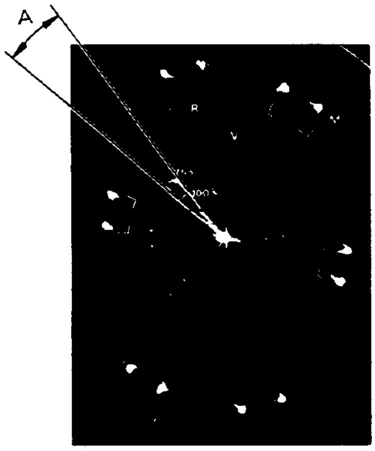
Step 1. Adjust the vectorscope so that the yellow spot appears within the YL target.

Step 2. Select the jumper position of J2 (SG-67 board) so that the burst coincides with the burst position on the vectorscope.

OUT-1 (BVT-800PS)

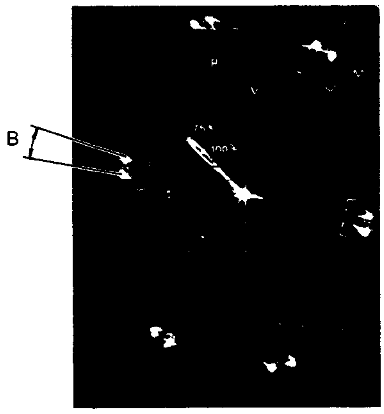


Step 3. Fine Adjustment
OUT-1 (BVT-800PS)



Spec; A = 0 ± 1%
⊘ VECTORSCOPE PHASE Control

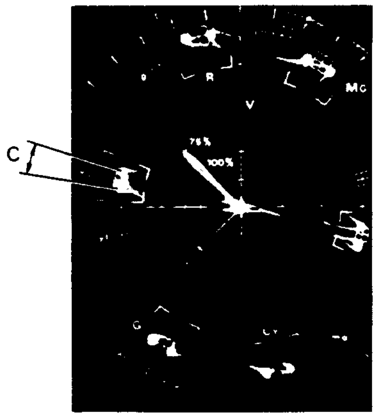
Step 4. Set the PR-40 board S1, COMP/DUB switch to COMP or DUB.
OUT-1 (BVT-800PS)



Spec; B = 0 ± 1° (COMP mode)
SG-67 board ⊘ RV6
Spec; B = 0 ± 1° (DUB mode)
SG-67 board ⊘ RV7

Step 5. Set the PR-40 board S1, COMP/DUB switch to COMP and remove the J3 Jumper plug.

Step 6. Adjustment
OUT-1 (BVT-800PS)



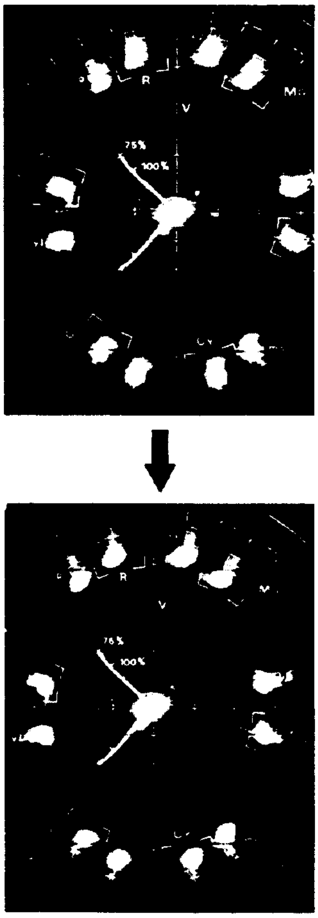
Spec; C = 0 ± 1°
SG-67 board ⊘ RV504

Step 7. Set the J3 Jumper plug again.

16-7. ACC ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Vectorscope
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
OUT-1 (BVT-800PS)



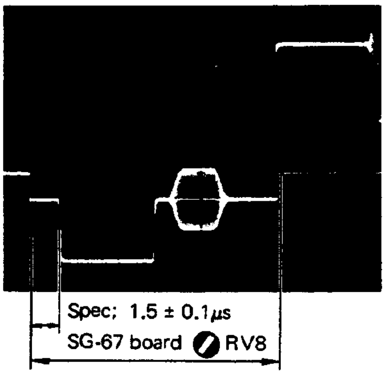
Spec; The dots become smallest.
SG-67 board ⊘ RV202

16-8. BLANKING ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Step 1. Set the PR-40 board S3, BLACK LEVEL PRESET switch to manual and turn the BLACK LEVEL control fully clockwise.

Step 2. **Adjustment**
OUT-1 (BVT-800PS)



Spec; 1.5 ± 0.1μs
SG-67 board ⊘ RV8

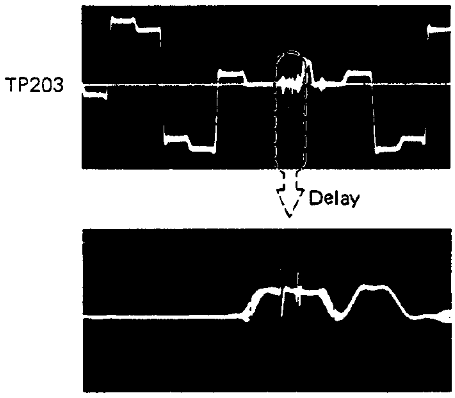
Spec; 12 ± 0.15μs
SG-67 board ⊘ RV9

Step 3. Set the PR-40 board S3 BLACK LEVEL PRESET switch to PRESET.

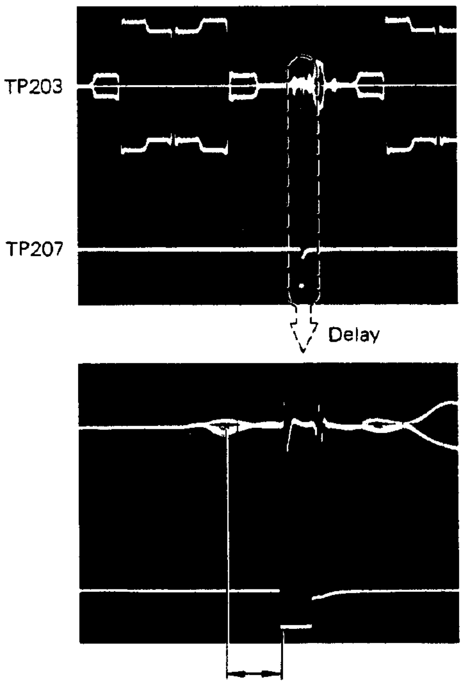
16-9. DUB APC ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Step 1. Adjustment (1)
SG-67 Board



Step 2. Adjustment (2)
SG-67 Board

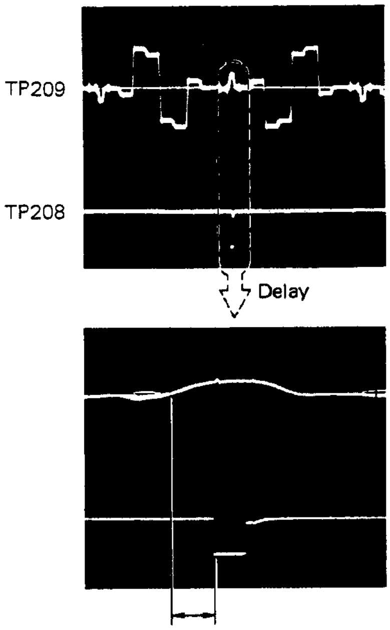


Spec; 1.5 ± 0.2µs
RV206

16-10. DUB BURST SAMPLING PULSE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board



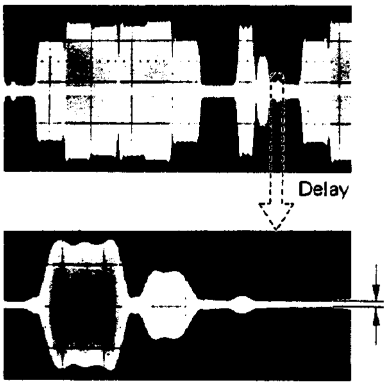
Spec; 1.0 ± 0.2µs
RV204

16-11. DUB CARRIER NULL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board

TP200



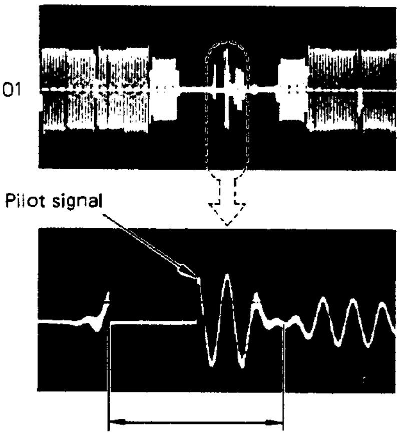
Spec;
minimum
⊘ RV201

16-12. PILOT BLANKING ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board

TP201



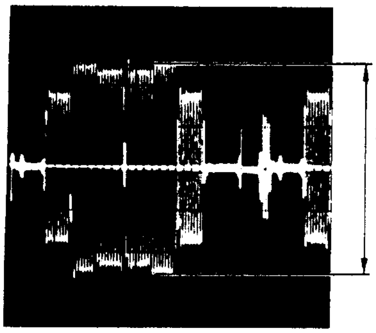
Delay Spec; The pilot signal is blanked.
⊘ RV207

16-13. WRITE CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; DUB
Input Signal (OFF TAPE VIDEO IN);
PAL Color Bars

Adjustment
SG-67 Board

Edge
Connector 21A



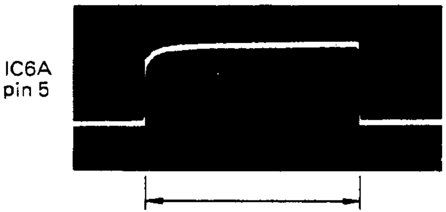
Spec;
1.00 ± 0.02 V
⊘ RV200

SECTION 17
CHROMA MODULATOR ALIGNMENT (For SECAM Model)

17-1. D/A CHROMA CLAMP PULSE POSITION ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Adjustment
SG-68 Board

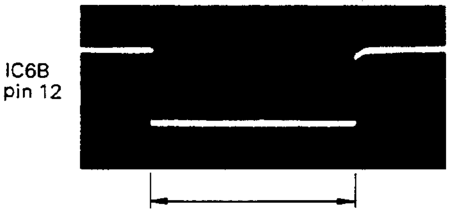


Spec; 2.9 ± 0.1μs
⊘ RV308

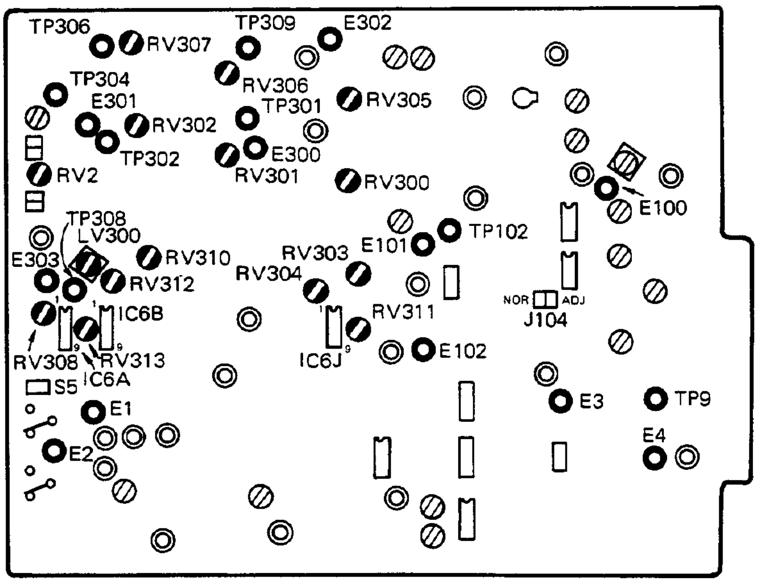
17-2. CHROMA & ID START POSITION ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars.

Adjustment
SG-68 Board



Spec; 11 ± 0.1μs
⊘ RV313

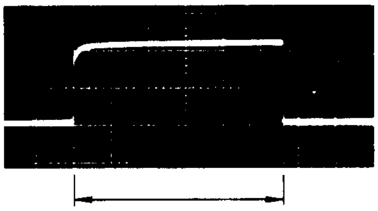

TP306
RV307
TP309
E302
TP304
E301
RV306
TP301
RV305
RV302
TP302
E300
RV2
RV301
RV300
E100
TP308
LV300
TP102
E303
RV310
RV303
E101
RV312
RV304
NOR
ADJ
J104
IC6B
RV311
RV308
RV313
IC6J
E102
S5
IC6A
E1
E3
TP9
E4
E2

SG-68 Board — component side —

17-3. READ CHROMA CLAMP PULSE POSITION ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Adjustment
SG-68 Board



Spec; 5.6 ± 0.1μs
⊘ RV311

17-4. MODULATOR VCO ADJUSTMENT

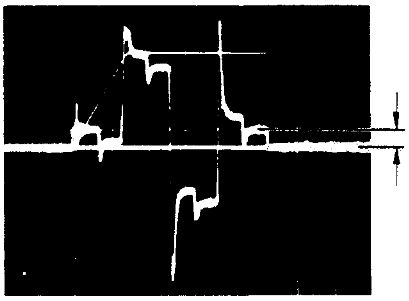
Equipment; Digital DC Voltmeter
Switches & Controls Setting;
Same as Section 6-3

Step 1. Wait for five minutes with power on, and perform the following steps.
Step 2. Turn off the SUBCARRIER AMPLITUDE switch of the Model 143 Test Signal Generator and also turn off the SG-68 board S5, ID ON/OFF switch.
Step 3. Connect the minus probe of the voltmeter to TP304, and connect the plus probe to TP302.
SG-68 Board:
Spec; TP302 = TP304 + (−2.45 ± 0.01) Vdc
⊘ RV302
Step 4. Change the connection of the plus probe from TP302 to TP306.
SG-68 Board:
Spec; TP306 = TP304 + (−2.45 ± 0.01) Vdc
⊘ RV307
Step 5. Turn on the SUBCARRIER AMPLITUDE switch of the Test Signal Generator and the SG-68 board S5 switch.

17-5. CHROMA PEDESTAL LEVEL ADJUSTMENT

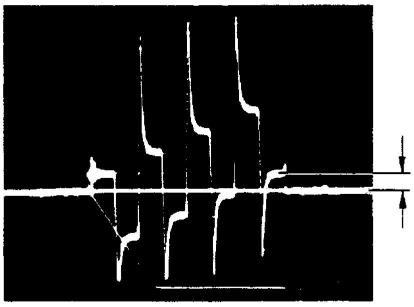
Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Adjustment (1)
SG-68 Board



Spec;
0 ± 0.02 V
⊘ RV301

Step 2. Adjustment (2)
SG-68 Board



Spec;
0 ± 0.02 V
⊘ RV306

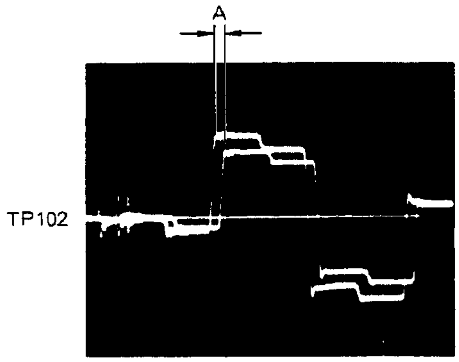
17-6. MODULATOR INPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Turn off the PRE EMPHASIS switch of the Model 143 Test Signal Generator.

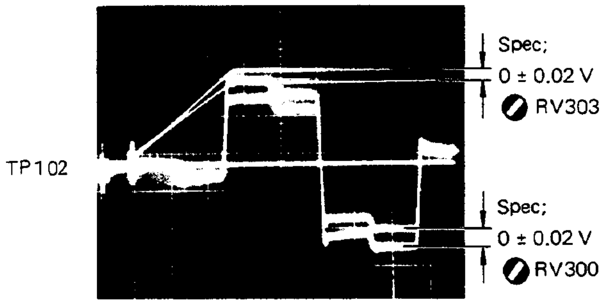
Step 2. Set the SG-68 board J104, NOR/ADJ Jumper plug to ADJ.

Step 3. Time Base Adjustment
SG-68 Board

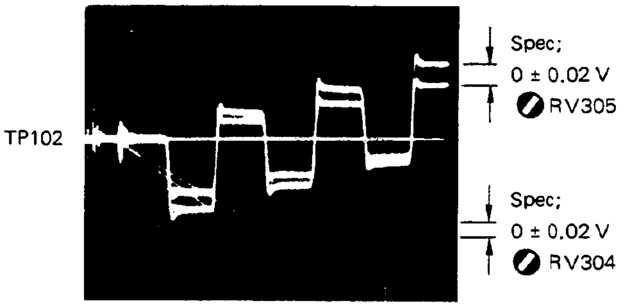


Spec; A = minimum
⊘ RV2

Step 4. D'_R Adjustment
SG-68 Board



Step 5. D'_B Adjustment
SG-68 Board



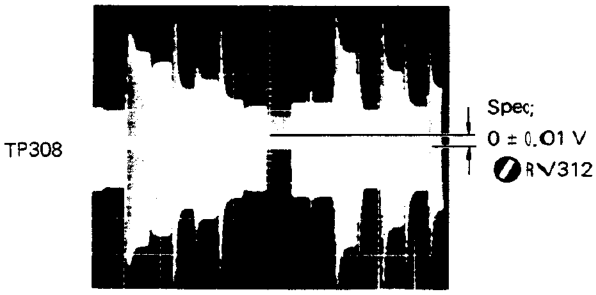
Step 6. Set the SG-68 board J104 to NOR.

Step 7. Turn on the PRE EMPHASIS switch of the Model 143 Test Signal Generator.

17-7. BLANKING LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Adjustment
SG-68 Board

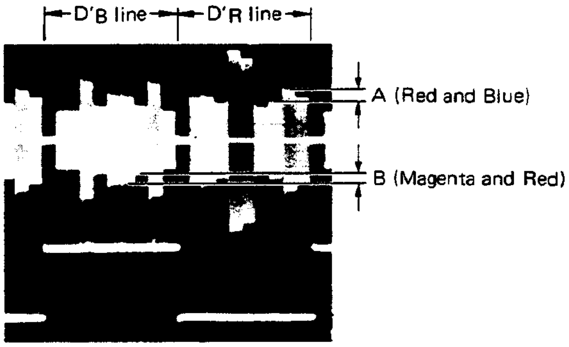


17-8. ANTI-BELL FILTER ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Step 1. Turn off the PRE EMPHASIS switch of the Model 143 Test Signal Generator.

Step 2. Adjustment
SG-68 Board



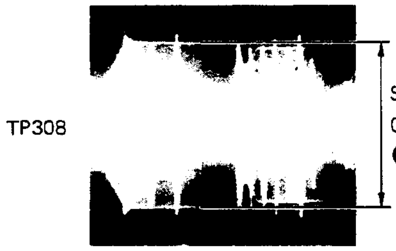
Spec; A = B = 0 ± 0.02 V
⊘ LV300

Step 3. Turn on the PRE EMPHASIS switch of the Model 143 Test Signal Generator.

17-9. MODULATOR OUTPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2
Equipment; Oscilloscope
Input; DC
Trigger; 7.8 KHz (test signal generator)
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
SECAM Color Bars

Adjustment
SG-68 Board



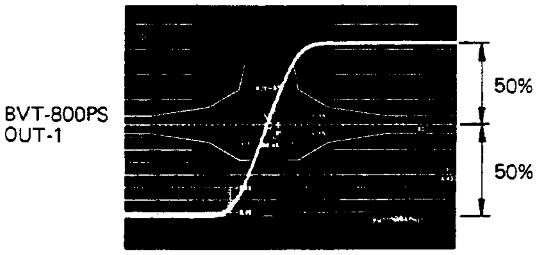
Spec;
0.875 ± 0.005 V
⊘ RV310

SECTION 18
VIDEO PHASE ALIGNMENT

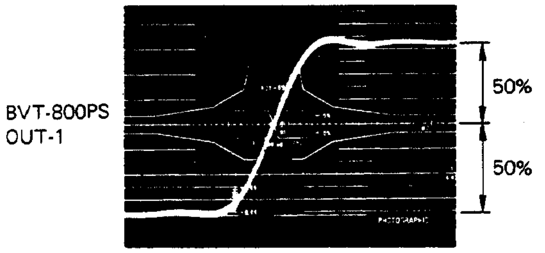
18-1. VIDEO PHASE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Waveform Monitor
SYNC; INT
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
SG-67 Board S3 } BYPASS/NORMAL Select
SG-68 Board S2 } Switch; BYPASS
Input Signal (OFF TAPE VIDEO IN);
Pulse & Bar

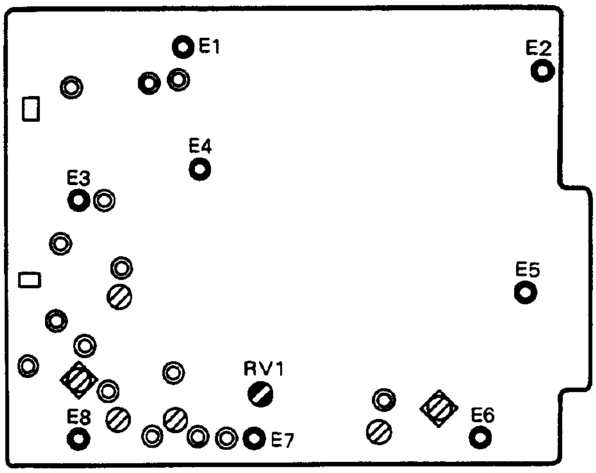
Step 1. Set the rising edge of the bar signal at the graticule center.



Step 2. Set the SG-67/68 board, BYPASS/NORMAL switch to NORMAL.



Spec; Rising edge of the bar coincides with the graticule center.
CK-11 board ⊘RV1

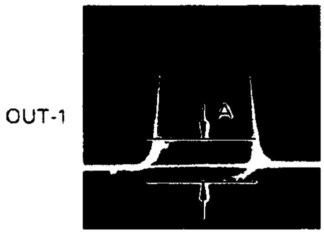


CK-11 Board — component side —

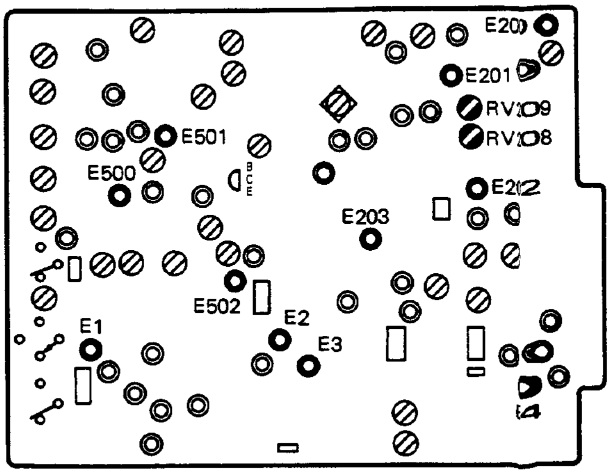
18-2. Y/C DELAY ADJUSTMENT (For PAL Model)

Connection; Same as Section 6-2, Connection 1.
Equipment; Waveform Monitor
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Modulated 20T of Pulse & Bar

Adjustment
BVT-800PS



Spec; A = minimum
SG-67 board, ⊘RV209 (PR-40 board S1, COMP/DUB switch; COMP)
SG-67 board, ⊘RV208 (PR-40 board S1, COMP/DUB switch; DUB)



SG-67 Board — component side —

18-3. Y/C DELAY PRESET ADJUSTMENT (For SECAM Model)

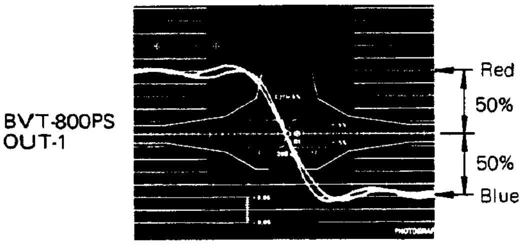
Connection; Same as Section 6-2, Connection 2
Equipment; Waveform Monitor
Switches & Controls Setting;
Same as Section 6-3 except the following.
PR-40 Board S1, COMP/DUB Switch; COMP
SG-67 Board S3 }
SG-68 Board S2 } BYPASS/NORMAL Select Switch; BYPASS
Input Signal (OFF TAPE VIDEO IN);
Color Bars (SECAM)

Step 1. Set the red-blue transition at the graticule center.

Step 2. Remove the J4 chrominance SC Blank jumper from OFF position.

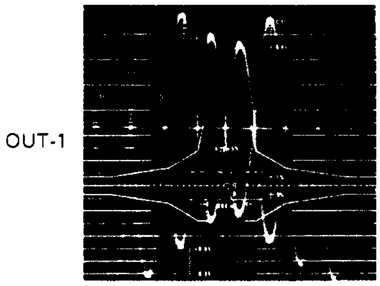
Step 3. Set the SUBCARRIER AMPLITUDE switch to VAR, decreasing the subcarrier level and stop right before the BVT-800PS changes to the B/W mode.

Step 4. Set the red-blue transition at the graticule center again.



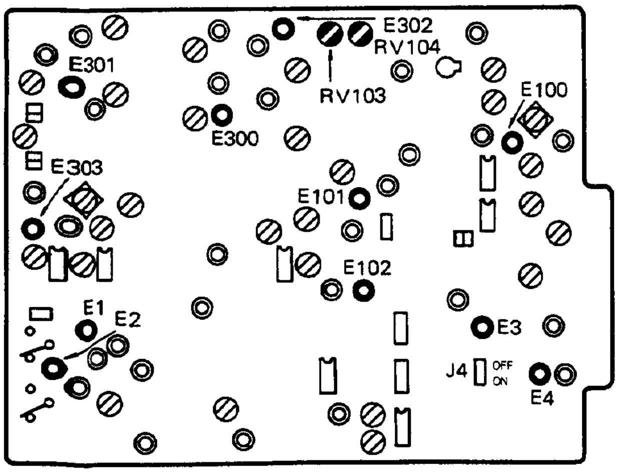
Step 5. Insert J4 into OFF position, and set the Y and PRE-EMPHASIS switches on the WFM to OFF.

Step 6. Adjustment
BVT-800PS



Spec; Minimum point of the chrominance subcarrier envelope coincides with the graticule center.
SC-68 board ⊘RV104

Step 7. Perform the same adjustment for DUB mode.
Spec; Same as Step 6.
SG-68 board ⊘RV103



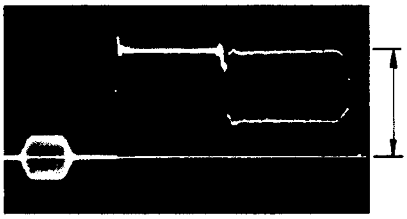
SG-68 Board — component side —

SECTION 19
VIDEO OUTPUT LEVEL ALIGNMENT

19-1. OUTPUT Y LEVEL & CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1 or 2
Equipment; Oscilloscope
Input; DC
Trigger; HD (For PAL, test signal generator)
7.8 KHz (For SECAM, test signal generator)
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Color Bars (PAL or SECAM)

Step 1. Output Y Level Adjustment
PR-40 Board



Spec;
1.40 ± 0.01 V
RV509

Step 2. Check that the chroma level at Edge Connector 32B on PR-40 board is within the following specification.

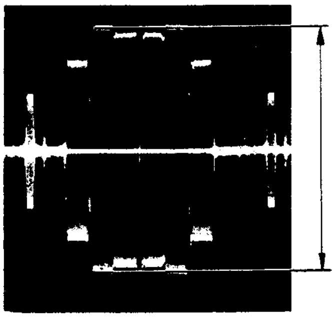
SG-67 Board (For PAL Model)
Spec; Write Chroma Level = 1.00 ± 0.02 Vp-p

SG-68 Board (For SECAM Model)
Spec; D'_R = 875 ± 5 mVp-p

If the value is out of the specification, perform the following adjustment.

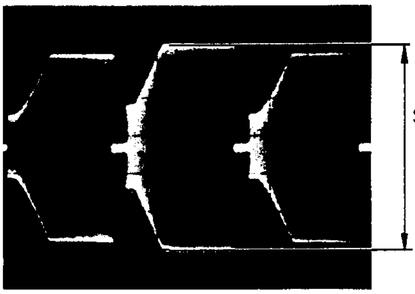
SG-67 Board:
Section 12-4. Write Chroma Level Adjustment
SG-68 Board:
Section 17-9. Modulator Output Level Adjustment

Step 3. Output Chroma Level Adjustment
For PAL Model
PR-40 Board

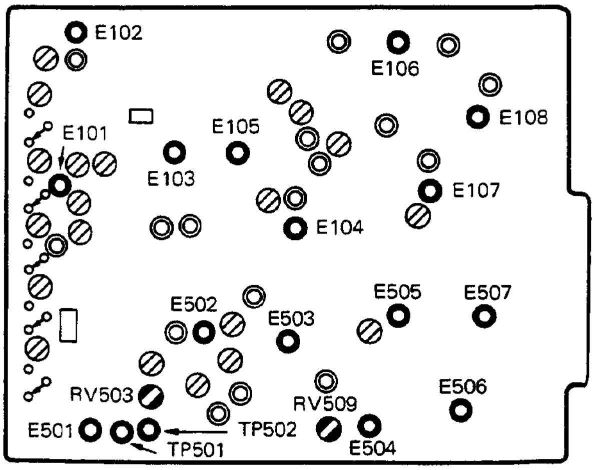


Spec;
Cyan, Red = 1.33 ± 0.02 V
RV503

For SECAM Model
PR-40 Board



Spec;
D'_R = 1.08 ± 0.02 V
RV503

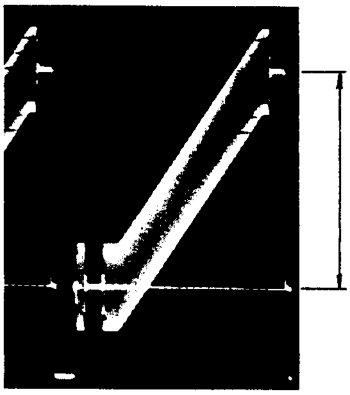


PR-40 Board — component side —

19-2. BYPASS VIDEO OUTPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Waveform Monitor
Switches & Controls Setting;
Same as Section 6-3 except the following.
SG-67 Board S3 } BYPASS/NORMAL Select
SG-68 Board S2 } Switch; BYPASS
Input Signal (OFF TAPE VIDEO IN);
Ramp linearity 1 Vp-p,
0.3 V subcarrier ON

Adjustment
OUT-1 (BVT-800PS)

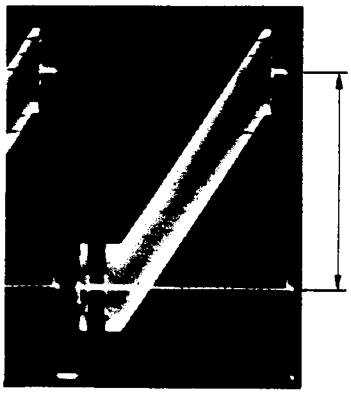


Spec; 0.700 ± 0.015 V
IV-4A Board ⊘ RV1

19-3. NORMAL VIDEO OUTPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Waveform Monitor
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Ramp linearity 1 Vp-p,
0.3 V subcarrier ON

Adjustment
OUT-1 (BVT-800PS)

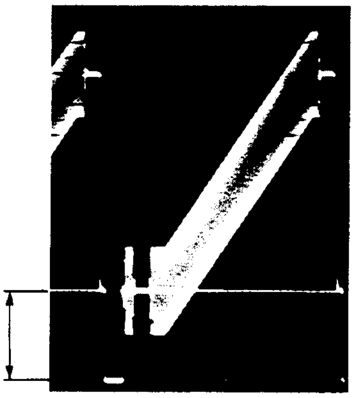


Spec; 0.700 ± 0.015 V
IV-4A ⊘ RV2

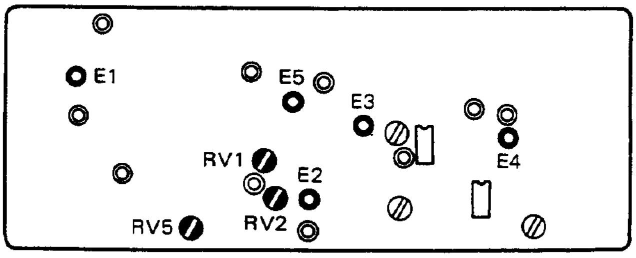
19-4. VIDEO OUTPUT SYNC LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1
Equipment; Waveform Monitor
Switches & Controls Setting;
Same as Section 6-3
Input Signal (OFF TAPE VIDEO IN);
Ramp linearity 1 Vp-p,
0.3 V subcarrier ON

Adjustment
OUT-1 (BVT-800PS)



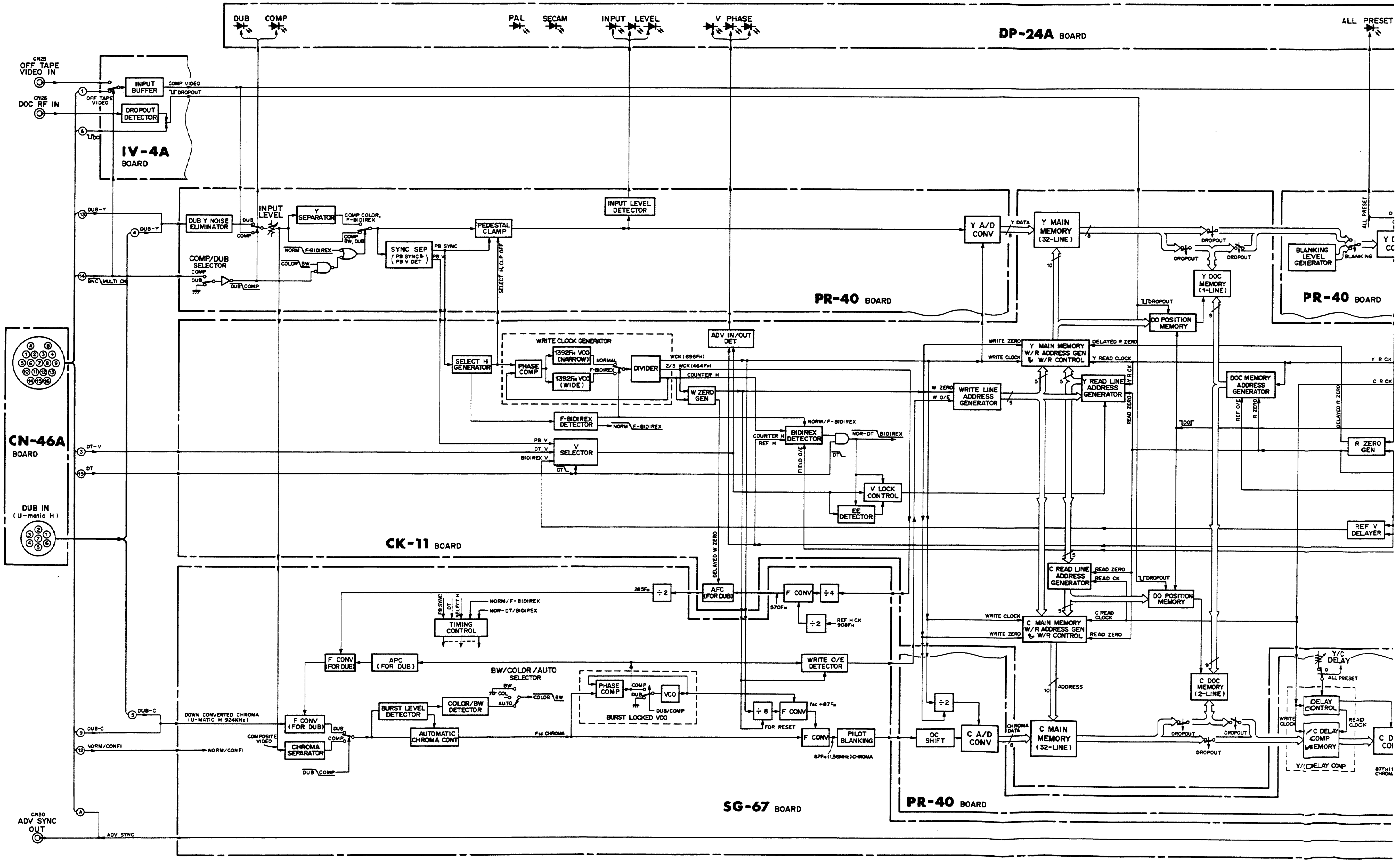
Spec; 0.300 ± 0.006 V
IV-4A Board ⊘ RV5



IV-4A Board — component side —

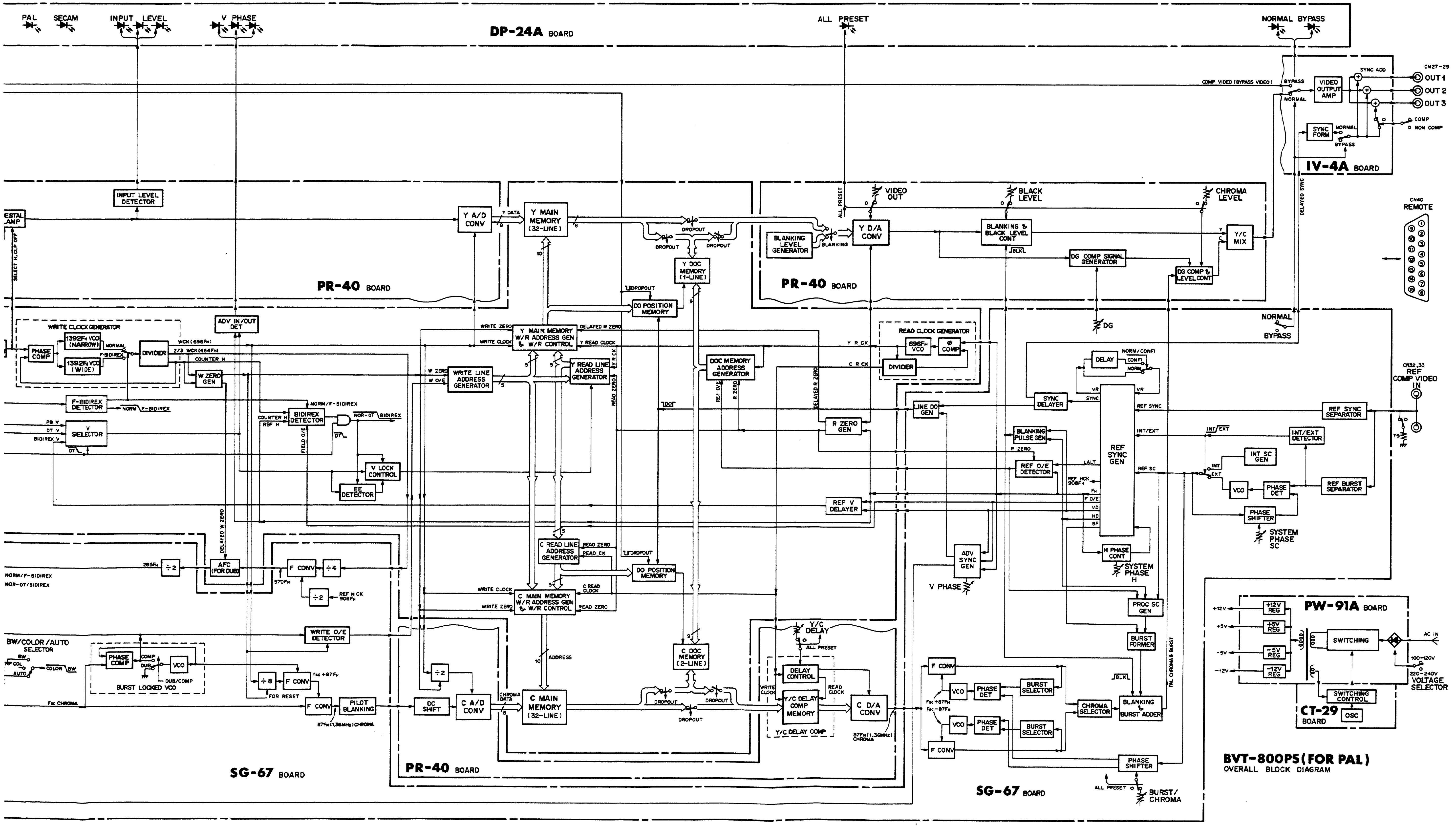
SECTION A
BLOCK DIAGRAM

PAL OVERALL BLOCK DIAGRAM


DUB
COMP
PAL
SECAM
INPUT LEVEL
V PHASE
ALL PRESET
DP-24A BOARD
CN25
OFF TAPE VIDEO IN
CN26
DOC RF IN
INPUT BUFFER
COMP VIDEO
DROPOUT
OFF TAPE VIDEO
DROPOUT DETECTOR
DO
IV-4A BOARD
DUB-Y
DUB Y NOISE ELIMINATOR
INPUT LEVEL
Y SEPARATOR
COMP COLOR, F-BIDIREX
COMP BW, DUB
NORM F-BIDIREX
COLOR BW
COMP/DUB SELECTOR
BNC MULTI CN
DUB COMP
SYNC SEP (PB SYNC & PB V DET)
PB SYNC
PB V
PEDESTAL CLAMP
SELECT H, CLP OFF
INPUT LEVEL DETECTOR
Y A/D CONV
Y DATA
8
Y MAIN MEMORY (32-LINE)
10
DROPOUT
Y DOC MEMORY (1-LINE)
BLANKING LEVEL GENERATOR
BLANKING
Y D CO
PR-40 BOARD
PR-40 BOARD
DO POSITION MEMORY
9
CN-46A BOARD
DUB IN (U-matic H)
DT-V
DT
SELECT H GENERATOR
WRITE CLOCK GENERATOR
PHASE COMP
1392FH VCO (NARROW)
1392FH VCO (WIDE)
NORMAL
F-BIDIREX
DIVIDER
WCK (696FH)
2/3 WCK (464FH)
COUNTER H
W ZERO GEN
ADV IN/OUT DET
F-BIDIREX DETECTOR
NORM F-BIDIREX
PB V
DT V
BIDIREX V
V SELECTOR
NORM/F-BIDIREX
COUNTER H
REF H
BIDIREX DETECTOR
FIELD O/E
NOR-DT BIDIREX
V LOCK CONTROL
EE DETECTOR
CK-11 BOARD
WRITE ZERO
WRITE CLOCK
Y MAIN MEMORY W/R ADDRESS GEN & W/R CONTROL
DELAYED R ZERO
Y READ CLOCK
W ZERO
W O/E
WRITE LINE ADDRESS GENERATOR
5
Y READ LINE ADDRESS GENERATOR
Y R CK
READ ZERO
DOC MEMORY ADDRESS GENERATOR
REF O/E
R ZERO
DELAYED R ZERO
Y R CK
C R CK
R ZERO GEN
REF V DELAYER
DELAYED W ZERO
285FH
÷2
AFC (FOR DUB)
F CONV
÷4
570FH
REF H CK 908FH
PB SYNC
DT
SELECT H
NORM/F-BIDIREX
NOR-DT/BIDIREX
TIMING CONTROL
F CONV (FOR DUB)
APC (FOR DUB)
WRITE O/E DETECTOR
BW/COLOR/AUTO SELECTOR
BW
COL
AUTO
COLOR BW
PHASE COMP
VCO
DUB/COMP
BURST LOCKED VCO
BURST LEVEL DETECTOR
COLOR/BW DETECTOR
AUTOMATIC CHROMA CONT
Fsc CHROMA
÷8
F CONV
fsc +87FH
FOR RESET
F CONV
PILOT BLANKING
87FH (1.36MHz) CHROMA
DUB-C
DOWN CONVERTED CHROMA (U-MATIC H 924KHz)
F CONV (FOR DUB)
COMPOSITE VIDEO
CHROMA SEPARATOR
DUB COMP
NORM/CONFI
CN30
ADV SYNC OUT
ADV SYNC
SG-67 BOARD
C READ LINE ADDRESS GENERATOR
READ ZERO
READ CK
C MAIN MEMORY W/R ADDRESS GEN & W/R CONTROL
C READ CLOCK
READ ZERO
ADDRESS
÷2
DC SHIFT
C A/D CONV
CHROMA DATA
C MAIN MEMORY (32-LINE)
C DOC MEMORY (2-LINE)
Y/C DELAY
ALL PRESET
DELAY CONTROL
WRITE CLOCK
READ CLOCK
Y/C DELAY COMP MEMORY
Y/C DELAY COMP
C D CO
87FH (1 CHROM
PR-40 BOARD

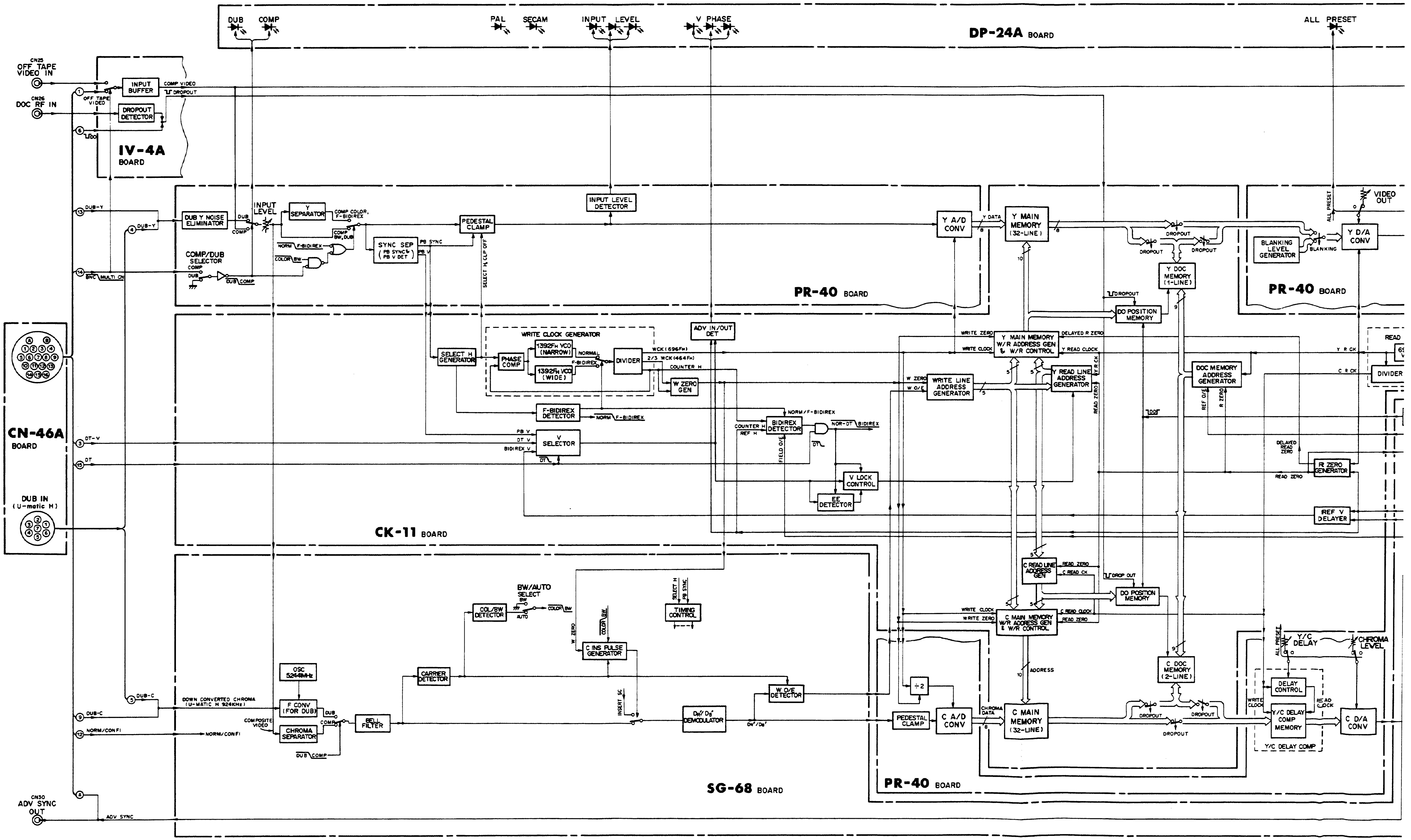
A-1

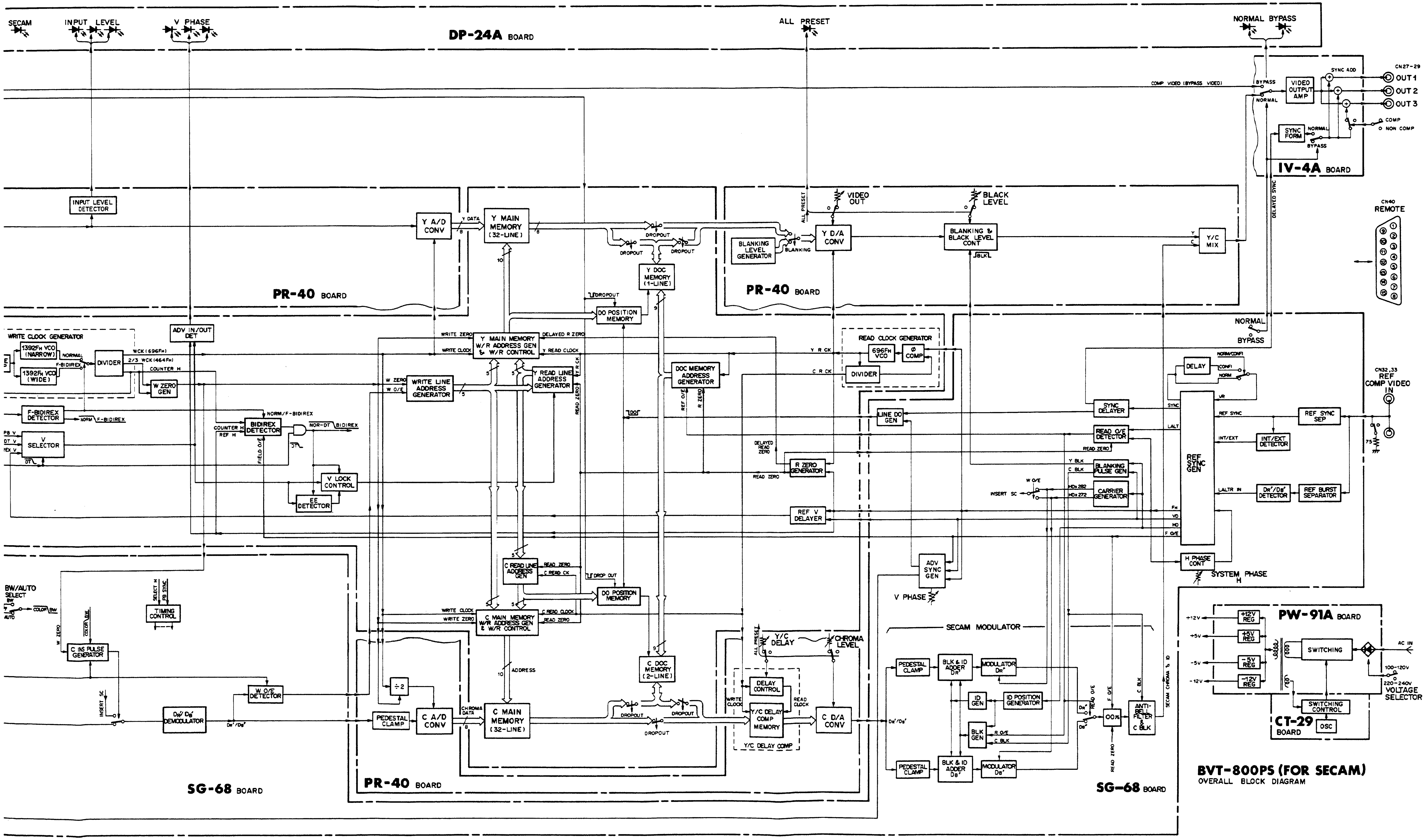
A-2


PAL
SECAM
INPUT LEVEL
V PHASE
DP-24A BOARD
ALL PRESET
NORMAL BYPASS
COMP VIDEO (BYPASS VIDEO)
BYPASS
NORMAL
VIDEO OUTPUT AMP
SYNC ADD
CN27-29
OUT 1
OUT 2
OUT 3
COMP
NON COMP
SYNC FORM
IV-4A BOARD
DELAYED SYNC
CN40 REMOTE
INPUT LEVEL DETECTOR
PEDESTAL CLAMP
SELECT H. CLP OFF
Y A/D CONV
Y DATA
Y MAIN MEMORY (32-LINE)
DROPOUT
Y DOC MEMORY (1-LINE)
PR-40 BOARD
VIDEO OUT
BLANKING LEVEL GENERATOR
BLANKING
Y D/A CONV
BLACK LEVEL
BLANKING & BLACK LEVEL CONT
BLK
CHROMA LEVEL
Y/C MIX
DG COMP SIGNAL GENERATOR
DG COMP & LEVEL CONT
DG
WRITE CLOCK GENERATOR
PHASE COMP
1392FH VCO (NARROW)
1392FH VCO (WIDE)
NORMAL
F-BIDIREX
DIVIDER
WCK (696FH)
2/3 WCK (464FH)
COUNTER H
W ZERO GEN
ADV IN/OUT DET
DO POSITION MEMORY
WRITE ZERO
WRITE CLOCK
Y MAIN MEMORY W/R ADDRESS GEN & W/R CONTROL
DELAYED R ZERO
Y READ CLOCK
W ZERO
W O/E
WRITE LINE ADDRESS GENERATOR
Y READ LINE ADDRESS GENERATOR
READ ZERO
DOC MEMORY ADDRESS GENERATOR
Y R CK
C R CK
READ CLOCK GENERATOR
696FH VCO
COMP
DIVIDER
NORMAL
BYPASS
F-BIDIREX DETECTOR
NORM / F-BIDIREX
PB V
DT V
BIDIREX V
V SELECTOR
COUNTER H
REF H
BIDIREX DETECTOR
NOR-DT
BIDIREX
FIELD O/E
V LOCK CONTROL
EE DETECTOR
R ZERO GEN
LINE DO GEN
DELAYED R ZERO
REF V DELAYER
SYNC DELAYER
DELAY
NORM/CONFI
CONFI
NORM
REF SYNC GEN
REF SYNC
INT/EXT
REF SC
BLANKING PULSE GEN
R ZERO
REF O/E DETECTOR
LALT
REF HCK 908FH
FH
F O/E
VD
HD
BF
REF SYNC SEPARATOR
CN32,33 REF COMP VIDEO IN
INT/EXT DETECTOR
INT SC GEN
INT
EXT
VCO
PHASE DET
REF BURST SEPARATOR
PHASE SHIFTER
SYSTEM PHASE SC
H PHASE CONT
SYSTEM PHASE H
ADV SYNC GEN
V PHASE
DELAYED W ZERO
285FH
÷2
AFC (FOR DUB)
F CONV
÷4
570FH
÷2
REF H CK 908FH
NORM/F-BIDIREX
NOR-DT/BIDIREX
C READ LINE ADDRESS GENERATOR
READ ZERO
READ CK
C MAIN MEMORY W/R ADDRESS GEN & W/R CONTROL
C READ CLOCK
C DOC MEMORY (2-LINE)
PROC SC GEN
BURST FORMER
WRITE O/E DETECTOR
BW/COLOR/AUTO SELECTOR
BW
COL
AUTO
COLOR
PHASE COMP
DUB
VCO
DUB/COMP
BURST LOCKED VCO
÷8
F CONV
fsc + 87FH
FOR RESET
Fsc CHROMA
PILOT BLANKING
87FH (1.36MHz) CHROMA
DC SHIFT
÷2
C A/D CONV
CHROMA DATA
C MAIN MEMORY (32-LINE)
ADDRESS
Y/C DELAY
ALL PRESET
DELAY CONTROL
WRITE CLOCK
READ CLOCK
Y/C DELAY COMP MEMORY
Y/C DELAY COMP
C D/A CONV
87FH (1.36MHz) CHROMA
SG-67 BOARD
PR-40 BOARD
F CONV
VCO
PHASE DET
BURST SELECTOR
Fsc+87FH
Fsc−87FH
CHROMA SELECTOR
BLANKING & BURST ADDER
PAL CHROMA & BURST
PHASE SHIFTER
BURST/CHROMA
SG-67 BOARD
PW-91A BOARD
+12V REG
+5V REG
−5V REG
−12V REG
SWITCHING
AC IN
100–120V
220–240V
VOLTAGE SELECTOR
SWITCHING CONTROL
OSC
CT-29 BOARD

BVT-800PS(FOR PAL)
OVERALL BLOCK DIAGRAM

SECAM OVERALL BLOCK DIAGRAM

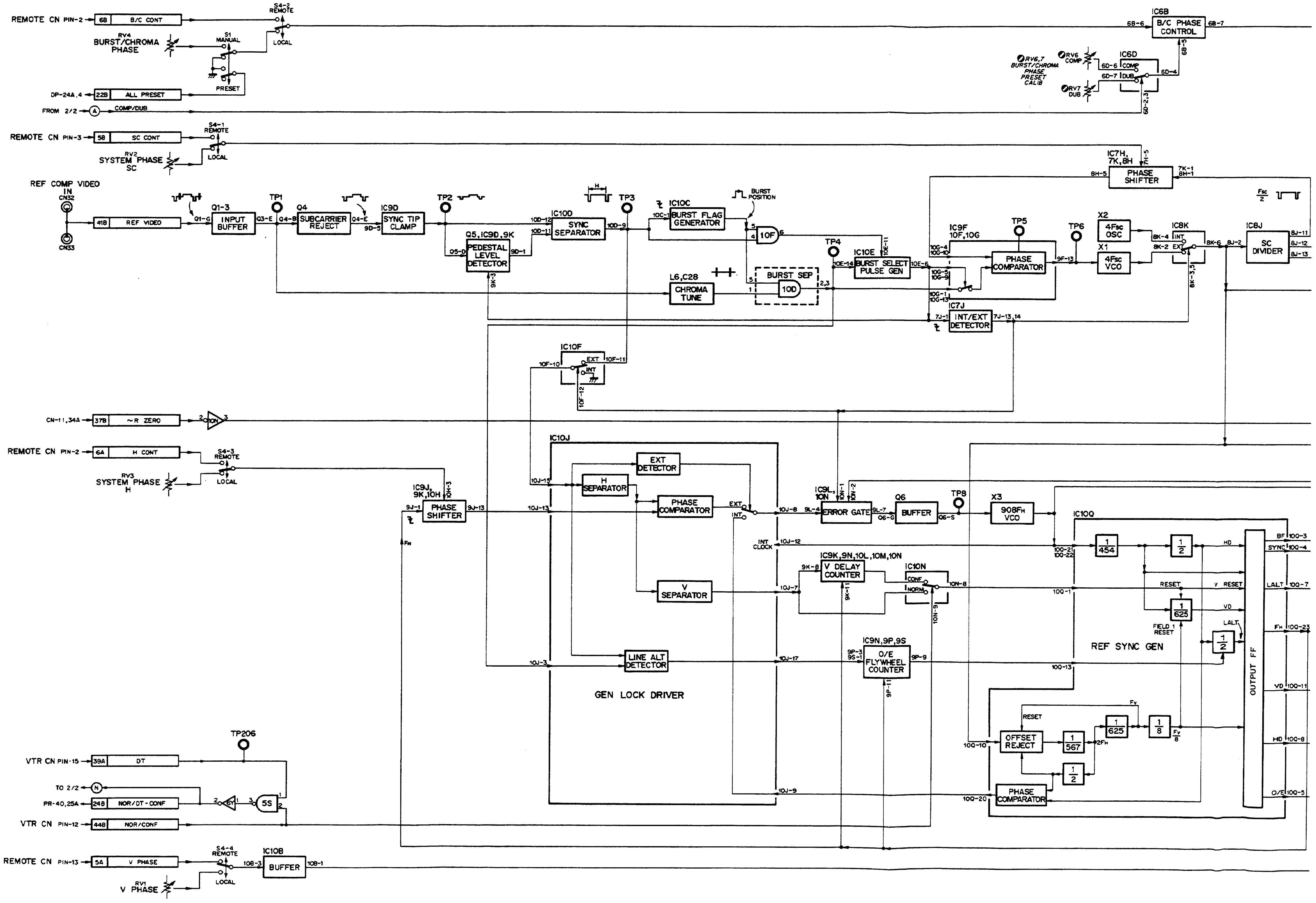

DUB
COMP
PAL
SECAM
INPUT LEVEL
V PHASE
ALL PRESET
DP-24A BOARD
CN25 OFF TAPE VIDEO IN
CN26 DOC RF IN
INPUT BUFFER
COMP VIDEO
DROPOUT
OFF TAPE VIDEO
DROPOUT DETECTOR
IV-4A BOARD
DUB-Y
DUB Y NOISE ELIMINATOR
INPUT LEVEL
Y SEPARATOR
COMP COLOR, F-BIDIREX
PEDESTAL CLAMP
INPUT LEVEL DETECTOR
COMP/DUB SELECTOR
NORM F-BIDIREX
COLOR BW
SYNC SEP (PB SYNC PB V DET)
PB SYNC
PB V
SELECT H, CLP OFF
Y A/D CONV
Y DATA
Y MAIN MEMORY (32-LINE)
DROPOUT
Y DOC MEMORY (1-LINE)
BLANKING LEVEL GENERATOR
BLANKING
Y D/A CONV
VIDEO OUT
PR-40 BOARD
ADV IN/OUT DET
WRITE CLOCK GENERATOR
1392FH VCO (NARROW)
1392FH VCO (WIDE)
SELECT H GENERATOR
PHASE COMP
NORMAL
F-BIDIREX
DIVIDER
WCK (696FH)
2/3 WCK (464FH)
COUNTER H
W ZERO GEN
F-BIDIREX DETECTOR
NORM/F-BIDIREX
BIDIREX DETECTOR
NOR-DT BIDIREX
COUNTER H
REF H
FIELD O/E
V SELECTOR
PB V
DT V
BIDIREX V
DT
V LOCK CONTROL
EE DETECTOR
CN-46A BOARD
DT-V
DUB IN (U-matic H)
CK-11 BOARD
WRITE ZERO
WRITE CLOCK
Y MAIN MEMORY W/R ADDRESS GEN & W/R CONTROL
DELAYED R ZERO
Y READ CLOCK
W ZERO
W O/E
WRITE LINE ADDRESS GENERATOR
Y READ LINE ADDRESS GENERATOR
READ ZERO
Y R CK
DO POSITION MEMORY
DOC MEMORY ADDRESS GENERATOR
REF O/E
R ZERO
C R CK
DIVIDER
READ
DELAYED READ ZERO
R ZERO GENERATOR
READ ZERO
REF V DELAYER
C READ LINE ADDRESS GEN
READ ZERO
C READ CK
DROP OUT
DO POSITION MEMORY
C MAIN MEMORY W/R ADDRESS GEN & W/R CONTROL
C READ CLOCK
READ ZERO
ADDRESS
C DOC MEMORY (2-LINE)
Y/C DELAY
CHROMA LEVEL
DELAY CONTROL
WRITE CLOCK
READ CLOCK
Y/C DELAY COMP MEMORY
Y/C DELAY COMP
C D/A CONV
BW/AUTO SELECT
COL/BW DETECTOR
AUTO
W ZERO
COLOR BW
C INS PULSE GENERATOR
SELECT H
PB SYNC
TIMING CONTROL
OSC 5244MHz
CARRIER DETECTOR
DUB-C
DOWN CONVERTED CHROMA (U-MATIC H 924KHz)
F CONV (FOR DUB)
COMPOSITE VIDEO
CHROMA SEPARATOR
BELL FILTER
INSERT SC
DR'/DB' DEMODULATOR
W O/E DETECTOR
÷2
PEDESTAL CLAMP
C A/D CONV
CHROMA DATA
C MAIN MEMORY (32-LINE)
NORM/CONFI
SG-68 BOARD
PR-40 BOARD
CN30 ADV SYNC OUT
ADV SYNC


SECAM
INPUT LEVEL
V PHASE
DP-24A BOARD
ALL PRESET
NORMAL BYPASS
COMP VIDEO (BYPASS VIDEO)
BYPASS
NORMAL
VIDEO OUTPUT AMP
SYNC ADD
CN27-29
OUT 1
OUT 2
OUT 3
COMP
NON COMP
SYNC FORM
IV-4A BOARD
DELAYED SYNC
CN40
REMOTE
INPUT LEVEL DETECTOR
Y A/D CONV
Y DATA
Y MAIN MEMORY (32-LINE)
DROPOUT
Y DOC MEMORY (1-LINE)
VIDEO OUT
BLACK LEVEL
BLANKING LEVEL GENERATOR
BLANKING
Y D/A CONV
BLANKING & BLACK LEVEL CONT
BLK
Y/C MIX
PR-40 BOARD
DO POSITION MEMORY
ADV IN/OUT DET
WRITE CLOCK GENERATOR
1392FH VCO (NARROW)
1392FH VCO (WIDE)
NORMAL
F-BIDIREX
DIVIDER
WCK (696FH)
2/3 WCK (464FH)
COUNTER H
W ZERO GEN
WRITE ZERO
WRITE CLOCK
Y MAIN MEMORY W/R ADDRESS GEN & W/R CONTROL
DELAYED R ZERO
Y READ CLOCK
W ZERO
W O/E
WRITE LINE ADDRESS GENERATOR
Y READ LINE ADDRESS GENERATOR
READ ZERO
Y R CK
DOC MEMORY ADDRESS GENERATOR
READ CLOCK GENERATOR
696FH VCO
Ø COMP
DIVIDER
C R CK
NORMAL
BYPASS
DELAY
NORM/CONF
CONF
NORM
VR
CN32,33
REF COMP VIDEO IN
F-BIDIREX DETECTOR
NORM/F-BIDIREX
BIDIREX DETECTOR
COUNTER H
REF H
NOR-DT
BIDIREX
PB V
DT V
V SELECTOR
FIELD O/E
V LOCK CONTROL
EE DETECTOR
LINE DO GEN
SYNC DELAYER
SYNC
REF SYNC
REF SYNC SEP
READ O/E DETECTOR
LALT
INT/EXT
INT/EXT DETECTOR
REF SYNC GEN
75
DELAYED READ ZERO
R ZERO GENERATOR
READ ZERO
Y BLK
C BLK
BLANKING PULSE GEN
W O/E
INSERT SC
HD=282
HD=272
CARRIER GENERATOR
LALTR IN
DR'/DB' DETECTOR
REF BURST SEPARATOR
REF V DELAYER
FH
VD
HD
F O/E
H PHASE CONT
SYSTEM PHASE H
ADV SYNC GEN
V PHASE
BW/AUTO SELECT
COLOR/BW
SELECT H
PB SYNC
TIMING CONTROL
C INS PULSE GENERATOR
C READ LINE ADDRESS GEN
READ ZERO
C READ CK
DROP OUT
C MAIN MEMORY W/R ADDRESS GEN & W/R CONTROL
C READ CLOCK
ADDRESS
C DOC MEMORY (2-LINE)
ALL PRESET
Y/C DELAY
CHROMA LEVEL
DELAY CONTROL
WRITE CLOCK
READ CLOCK
Y/C DELAY COMP MEMORY
Y/C DELAY COMP
C D/A CONV
SECAM MODULATOR
PEDESTAL CLAMP
BLK & ID ADDER DR'
MODULATOR DR'
ID GEN
ID POSITION GENERATOR
BLK GEN
R O/E
C BLK
BLK & ID ADDER DB'
MODULATOR DB'
00%
ANTI-BELL FILTER & C BLK
SECAM CHROMA & ID
PW-91A BOARD
+12V REG
+5V REG
-5V REG
-12V REG
SWITCHING
AC IN
100-120V
220-240V
VOLTAGE SELECTOR
SWITCHING CONTROL
CT-29 BOARD
OSC
W O/E DETECTOR
DR'/DB' DEMODULATOR
÷2
PEDESTAL CLAMP
C A/D CONV
CHROMA DATA
C MAIN MEMORY (32-LINE)
SG-68 BOARD

BVT-800PS (FOR SECAM)
OVERALL BLOCK DIAGRAM

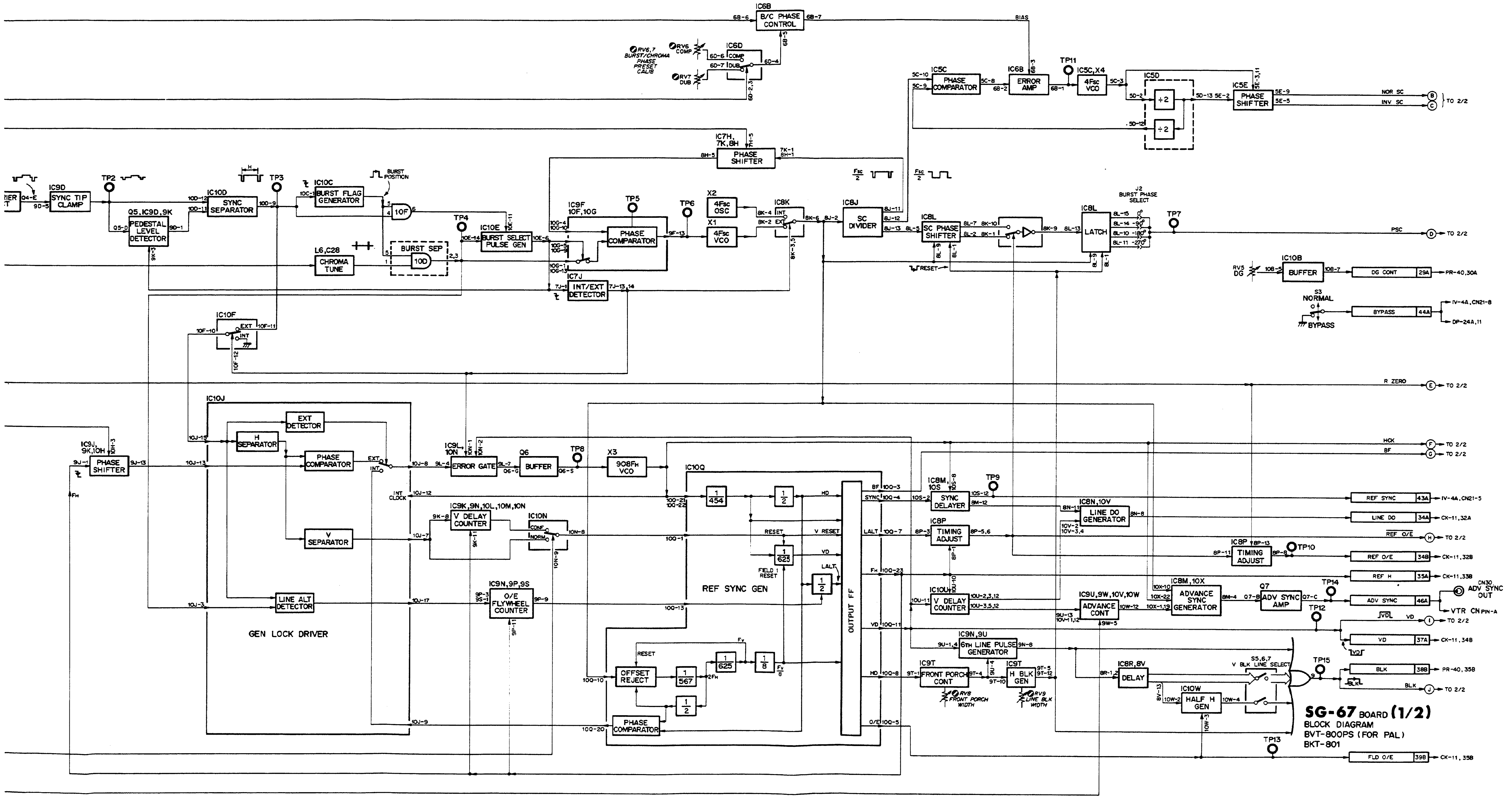
1 SG-67 BOARD (1/2); PAL SYNC GEN

Reference Sync Generator
Advanced Sync Generator
Blanking Pulse Generator
Line DO Pulse Generator
Proc SC Generator
Burst/Chroma Phase Control
SC Phase Control
System Phase Control
V Phase Control


REMOTE CN PIN-2
6B B/C CONT
S4-2 REMOTE
LOCAL
RV4 BURST/CHROMA PHASE
S1 MANUAL
PRESET
DP-24A,4
22B ALL PRESET
FROM 2/2
A
COMP/DUB
REMOTE CN PIN-3
5B SC CONT
S4-1 REMOTE
RV2 SYSTEM PHASE SC
REF COMP VIDEO IN
CN32
CN33
41B REF VIDEO
Q1-3 INPUT BUFFER
TP1
Q4 SUBCARRIER REJECT
IC9D SYNC TIP CLAMP
TP2
Q5,IC9D,9K PEDESTAL LEVEL DETECTOR
IC10D SYNC SEPARATOR
TP3
IC10C BURST FLAG GENERATOR
BURST POSITION
10F
L6,C28 CHROMA TUNE
BURST SEP
10D
TP4
IC10E BURST SELECT PULSE GEN
IC9F 10F,10G
TP5
PHASE COMPARATOR
TP6
X2 4Fsc OSC
X1 4Fsc VCO
IC8K
INT
EXT
IC8J SC DIVIDER
IC7H, 7K,8H PHASE SHIFTER
IC6B B/C PHASE CONTROL
IC6D
COMP
DUB
RV6,7 BURST/CHROMA PHASE PRESET CALIB
RV6 COMP
RV7 DUB
IC7J INT/EXT DETECTOR
IC10F
EXT
INT
CN-11,34A
37B ~R ZERO
REMOTE CN PIN-2
6A H CONT
S4-3 REMOTE
RV3 SYSTEM PHASE H
IC9J, 9K,10H PHASE SHIFTER
IC10J
EXT DETECTOR
H SEPARATOR
PHASE COMPARATOR
V SEPARATOR
LINE ALT DETECTOR
GEN LOCK DRIVER
INT CLOCK
IC9L, 10N ERROR GATE
Q6 BUFFER
TP8
X3 908FH VCO
IC9K,9N,10L,10M,10N V DELAY COUNTER
IC10N
CONF
NORM
IC9N,9P,9S O/E FLYWHEEL COUNTER
IC10Q
1/454
1/2
RESET
V RESET
1/625
FIELD 1 RESET
LALT
1/2
REF SYNC GEN
OUTPUT FF
HD
SYNC
VD
FH
O/E
OFFSET REJECT
1/567
2FH
1/625
1/8
Fv
Fv/8
1/2
PHASE COMPARATOR
TP206
VTR CN PIN-15
39A DT
TO 2/2
N
PR-40,25A
24B NOR/DT-CONF
5S
VTR CN PIN-12
44B NOR/CONF
REMOTE CN PIN-13
5A V PHASE
S4-4 REMOTE
IC10B BUFFER
RV1 V PHASE

A-10 (BVT-800PS)
A-4 (BKT-801)

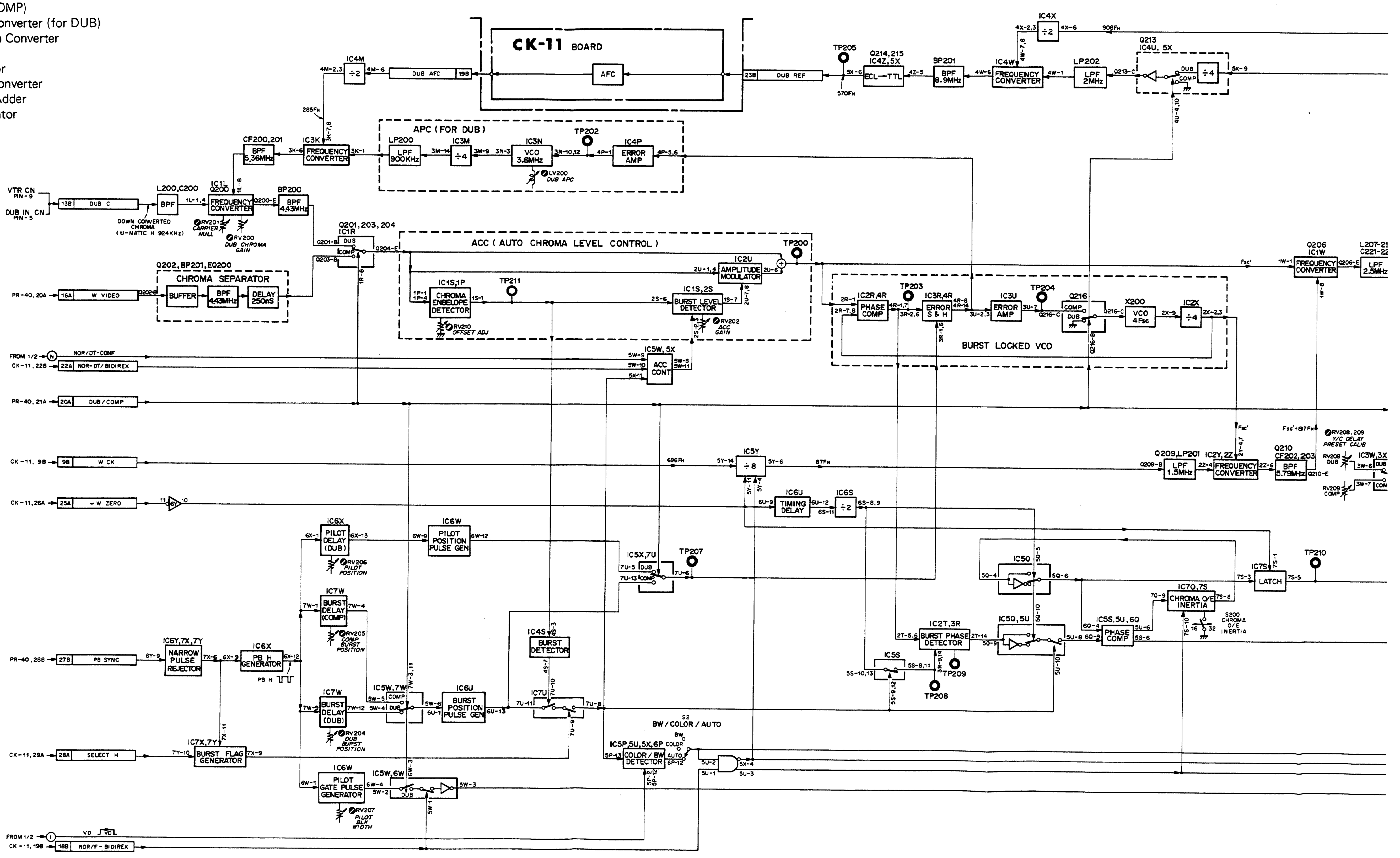
A-11 (BVT-800PS)
A-5 (BKT-801)


IC6B B/C PHASE CONTROL
BIAS
RV6,7 BURST/CHROMA PHASE PRESET CALIB
RV6 COMP
RV7 DUB
IC6D COMP DUB
IC5C PHASE COMPARATOR
IC6B ERROR AMP
TP11
IC5C,X4 4Fsc VCO
IC5D ÷2 ÷2
IC5E PHASE SHIFTER
NOR SC
INV SC
TO 2/2
IC7H, 7K,8H PHASE SHIFTER
IC9D SYNC TIP CLAMP
TP2
Q5,IC9D,9K PEDESTAL LEVEL DETECTOR
IC10D SYNC SEPARATOR
TP3
IC10C BURST FLAG GENERATOR
BURST POSITION
10F
BURST SEP
10D
L6,C28 CHROMA TUNE
TP4
IC10E BURST SELECT PULSE GEN
IC9F 10F,10G
TP5
PHASE COMPARATOR
IC7J INT/EXT DETECTOR
TP6
X2 4Fsc OSC
X1 4Fsc VCO
IC8K INT EXT
IC8J SC DIVIDER
Fsc/2
IC8L SC PHASE SHIFTER
RESET
IC8L LATCH
J2 BURST PHASE SELECT
TP7
PSC
RV3 DG
IC10B BUFFER
DG CONT 29A
PR-40,30A
S3 NORMAL BYPASS
BYPASS 44A
IV-4A,CN21-8
DP-24A,11
IC10F EXT INT
R ZERO
IC10J
EXT DETECTOR
H SEPARATOR
PHASE COMPARATOR
EXT INT
IC9J, 9K,10H PHASE SHIFTER
FH
IC9L, 10N ERROR GATE
Q6 BUFFER
TP8
X3 908FH VCO
HCK
BF
INT CLOCK
IC9K,9N,10L,10M,10N V DELAY COUNTER
IC10N CONF NORM
V SEPARATOR
IC10Q
1/454
1/2
HD
RESET
V RESET
1/625
VD
FIELD 1 RESET
LALT
1/2
REF SYNC GEN
OUTPUT FF
LINE ALT DETECTOR
IC9N,9P,9S O/E FLYWHEEL COUNTER
GEN LOCK DRIVER
OFFSET REJECT
1/567
2FH
1/625
1/8
Fv
1/2
PHASE COMPARATOR
IC8M, 10S SYNC DELAYER
TP9
IC8P TIMING ADJUST
IC8N,10V LINE DO GENERATOR
IC8P TIMING ADJUST
TP10
IC10U V DELAY COUNTER
IC9U,9W,10V,10W ADVANCE CONT
IC8M,10X ADVANCE SYNC GENERATOR
Q7 ADV SYNC AMP
TP14
TP12
IC9N,9U 6TH LINE PULSE GENERATOR
IC9T FRONT PORCH CONT
RV8 FRONT PORCH WIDTH
IC9T H BLK GEN
RV9 LINE BLK WIDTH
IC8R,8V DELAY
IC10W HALF H GEN
S5,6,7 V BLK LINE SELECT
TP15
TP13
REF SYNC 43A IV-4A,CN21-5
LINE DO 34A CK-11,32A
REF O/E TO 2/2
REF O/E 34B CK-11,32B
REF H 35A CK-11,33B
ADV SYNC 46A
CN30 ADV SYNC OUT
VTR CN PIN-A
VDL VD TO 2/2
VD 37A CK-11,34B
BLK 38B PR-40,35B
BLK TO 2/2
FLD O/E 39B CK-11,35B

SG-67 BOARD **(1/2)**
BLOCK DIAGRAM
BVT-800PS (FOR PAL)
BKT-801

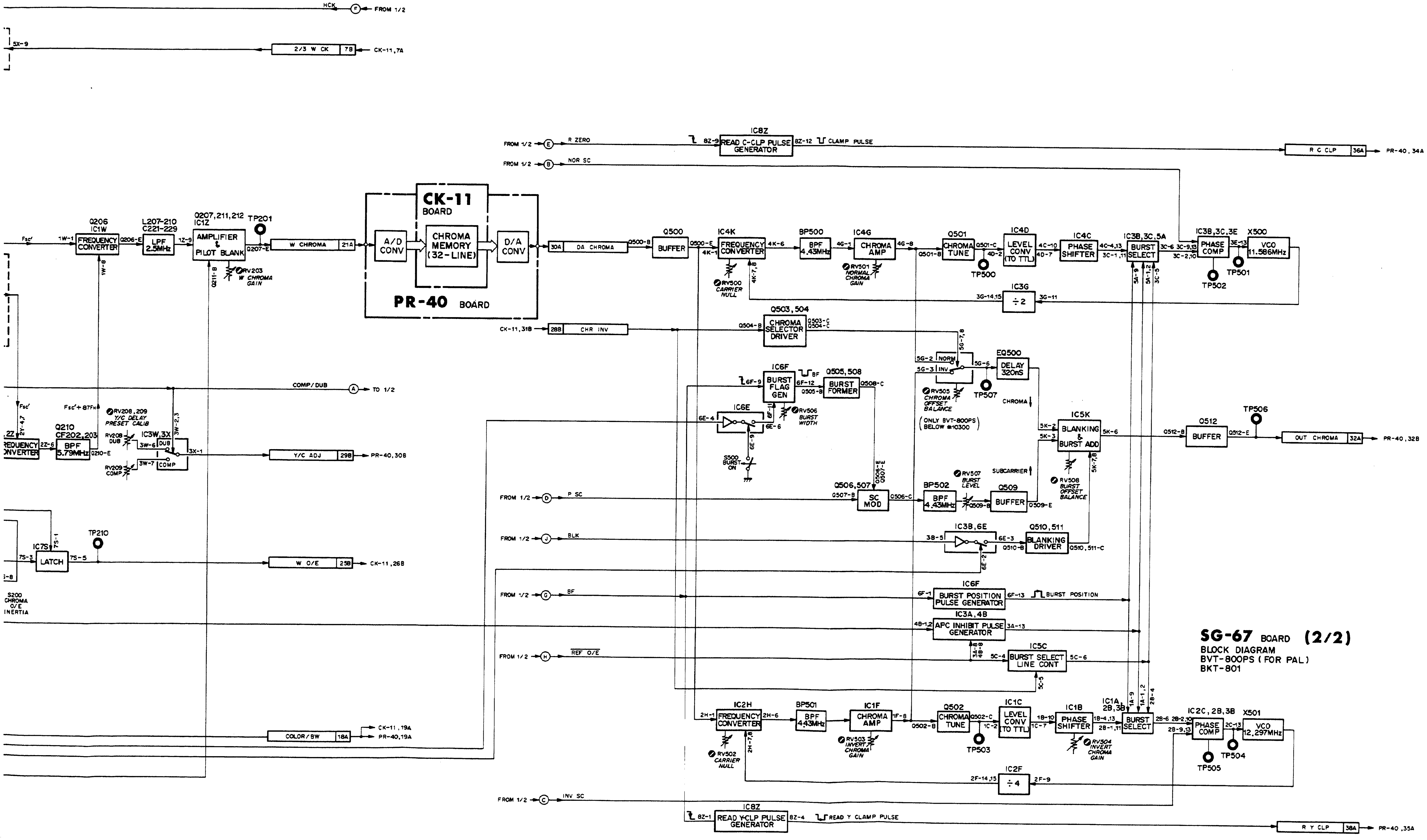
1 SG-67 BOARD (2/2); PAL SYNC GEN

Chroma Separator (for COMP)
Chroma Frequency Up Converter (for DUB)
Chroma Frequency Down Converter
Color/BW Detector
Write O/E Pulse Generator
Chroma Frequency Up Converter
Chroma Blanking/Burst Adder
Read Clamp Pulse Generator


CK-11 BOARD
AFC
DUB AFC
DUB REF
IC4M ÷2
IC3K FREQUENCY CONVERTER
CF200,201 BPF 5.36MHz
APC (FOR DUB)
LP200 LPF 900KHz
IC3M ÷4
IC3N VCO 3.6MHz
LV200 DUB APC
TP202
IC4P ERROR AMP
TP205
Q214,215 IC4Z,5X ECL—TTL
BP201 BPF 8.9MHz
IC4W FREQUENCY CONVERTER
IC4X ÷2
LP202 LPF 2MHz
Q213 IC4U, 5X
DUB
COMP
÷4
908FH
570FH
285FH
VTR CN PIN-9
DUB IN CN PIN-5
13B DUB C
L200,C200 BPF
IC1L Q200 FREQUENCY CONVERTER
BP200 BPF 4.43MHz
DOWN CONVERTED CHROMA (U-MATIC H 924KHz)
RV201 CARRIER NULL
RV200 DUB CHROMA GAIN
Q201,203,204 IC1R
Q202,BP201,EQ200
CHROMA SEPARATOR
BUFFER
BPF 4.43MHz
DELAY 250nS
PR-40, 20A 16A W VIDEO
ACC (AUTO CHROMA LEVEL CONTROL)
TP200
IC2U AMPLITUDE MODULATOR
IC1S,1P CHROMA ENBELOPE DETECTOR
TP211
RV210 OFFSET ADJ
IC1S,2S BURST LEVEL DETECTOR
RV202 ACC GAIN
FROM 1/2 N NOR/DT-CONF
CK-11, 22B 22A NOR-DT/BIDIREX
IC5W, 5X ACC CONT
PR-40, 21A 20A DUB/COMP
IC2R,4R PHASE COMP
TP203
IC3R,4R ERROR S & H
IC3U ERROR AMP
TP204
Q216 COMP DUB
X200 VCO 4Fsc
IC2X ÷4
BURST LOCKED VCO
Q206 IC1W FREQUENCY CONVERTER
L207-21 C221-22 LPF 2.5MHz
Fsc'
Fsc'+87FH
RV208,209 Y/C DELAY PRESET CALIB
Q209,LP201 IC2Y,2Z LPF 1.5MHz FREQUENCY CONVERTER
Q210 CF202,203 BPF 5.79MHz
IC3W,3X
CK-11, 9B 9B W CK
696FH
IC5Y ÷8
87FH
CK-11, 26A 25A ~W ZERO
IC6Y
IC6U TIMING DELAY
IC6S ÷2
IC6X PILOT DELAY (DUB)
RV206 PILOT POSITION
IC6W PILOT POSITION PULSE GEN
IC5X,7U DUB COMP
TP207
IC5O
IC7S LATCH
TP210
IC7O,7S CHROMA O/E INERTIA
S200 CHROMA O/E INERTIA
IC7W BURST DELAY (COMP)
RV205 COMP BURST POSITION
IC4S BURST DETECTOR
IC2T,3R BURST PHASE DETECTOR
IC5O,5U
IC5S,5U,6Q PHASE COMP
IC5S
TP209
TP208
IC6Y,7X,7Y NARROW PULSE REJECTOR
IC6X PB H GENERATOR
PB H
PR-40, 28B 27B PB SYNC
IC7W BURST DELAY (DUB)
RV204 DUB BURST POSITION
IC5W,7W COMP DUB
IC6U BURST POSITION PULSE GEN
IC7U
S2 BW/COLOR/AUTO
IC5P,5U,5X,6P COLOR/BW DETECTOR
CK-11, 29A 28A SELECT H
IC7X,7Y BURST FLAG GENERATOR
IC6W PILOT GATE PULSE GENERATOR
IC5W,6W DUB
RV207 PILOT BLK WIDTH
FROM 1/2 I VD
CK-11, 19B 18B NOR/F-BIDIREX

A-13 (BVT-800PS)
A-7 (BKT-801)

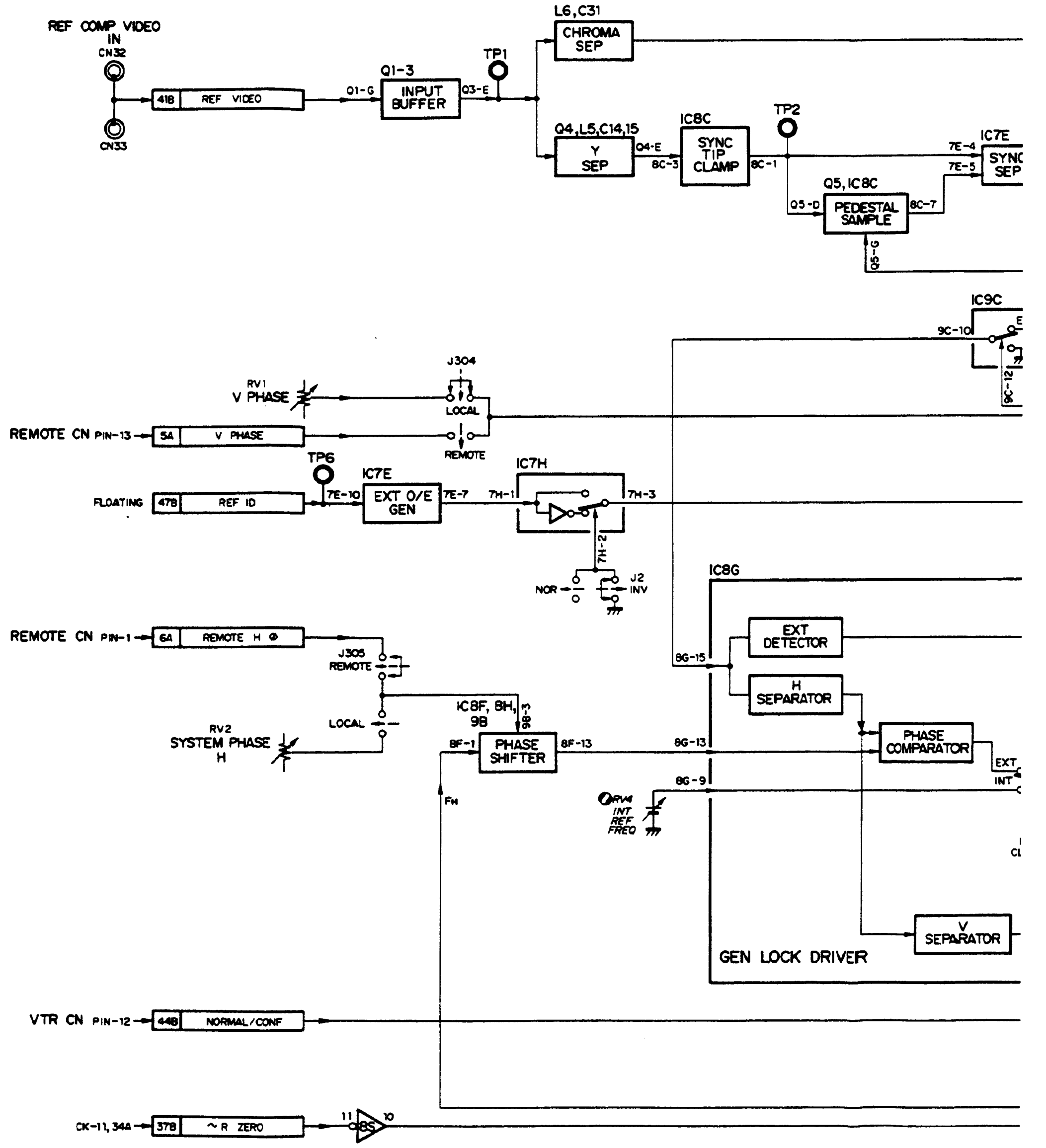
A-14 (BVT-800PS)
A-8 (BKT-801)

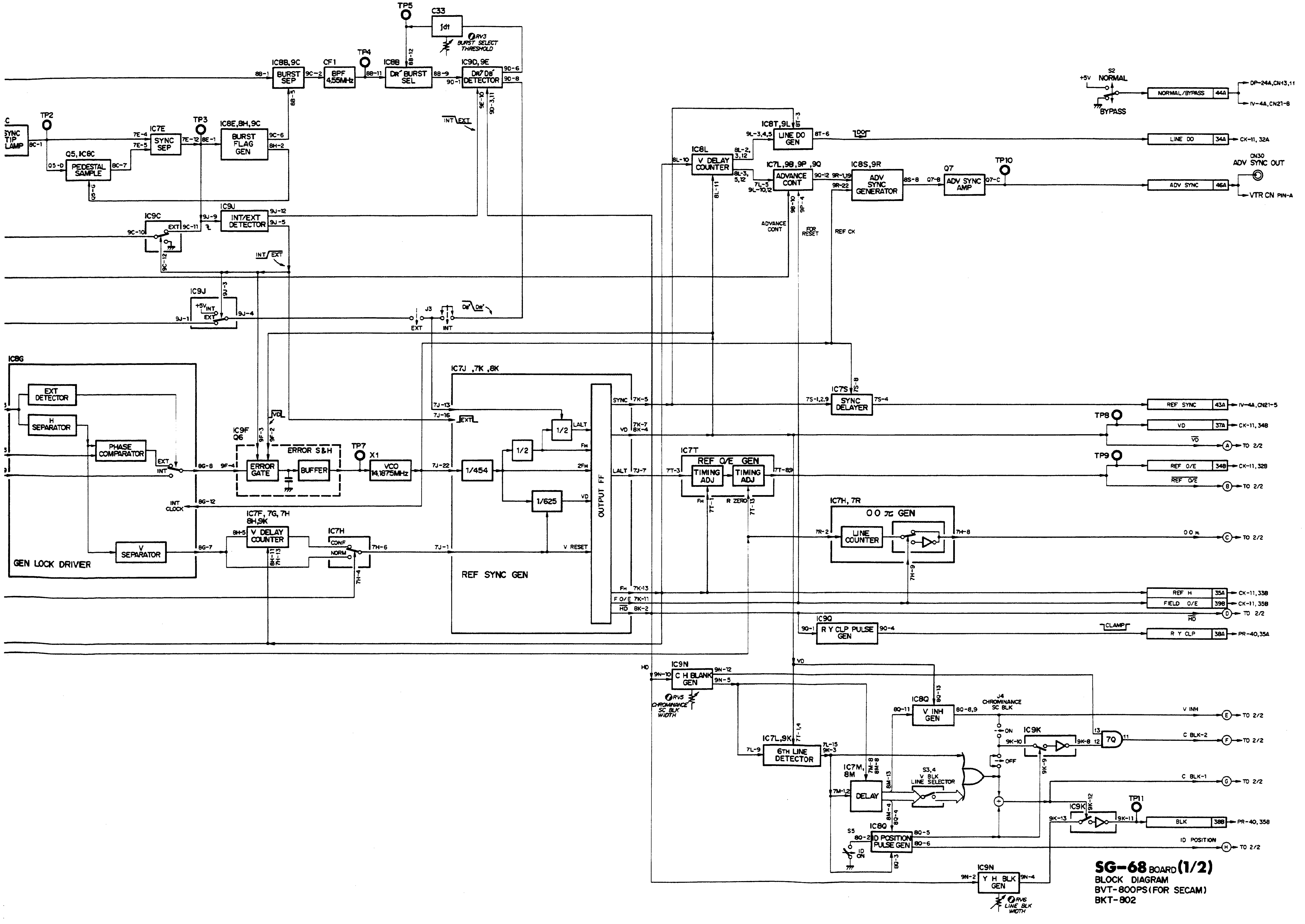

HCK
F
FROM 1/2
5X-9
2/3 W CK
7B
CK-11,7A
Fsc'
1W-1
Q206
IC1W
FREQUENCY CONVERTER
Q206-E
1W-8
L207-210
C221-229
LPF 2.5MHz
1Z-9
Q207,211,212
IC1Z
AMPLIFIER & PILOT BLANK
Q207-E
Q211-B
RV203 W CHROMA GAIN
TP201
W CHROMA
21A
CK-11 BOARD
A/D CONV
CHROMA MEMORY (32-LINE)
D/A CONV
PR-40 BOARD
30A
DA CHROMA
CK-11,31B
28B
CHR INV
COMP/DUB
A
TO 1/2
Fsc'
2Y-4,7
Fsc'+87FH
RV208,209 Y/C DELAY PRESET CALIB
2Z
FREQUENCY CONVERTER
2Z-6
Q210
CF202,203
BPF 5.79MHz
Q210-E
RV208 DUB
RV209 COMP
IC3W,3X
3W-2,3
3W-6
3W-7
DUB
COMP
3X-1
Y/C ADJ
29B
PR-40,30B
IC7S
7S-1
7S-3
LATCH
7S-5
TP210
W O/E
25B
CK-11,26B
S200 CHROMA O/E INERTIA
COLOR/BW
18A
CK-11,19A
PR-40,19A
FROM 1/2
E
R ZERO
8Z-9
IC8Z
READ C-CLP PULSE GENERATOR
8Z-12
CLAMP PULSE
R C CLP
36A
PR-40,34A
B
NOR SC
Q500
Q500-B
BUFFER
Q500-E
4K-1
IC4K
FREQUENCY CONVERTER
4K-6
4K-7,8
RV500 CARRIER NULL
BP500
BPF 4.43MHz
4G-1
IC4G
CHROMA AMP
4G-8
RV501 NORMAL CHROMA GAIN
Q501
Q501-B
CHROMA TUNE
Q501-C
TP500
IC4D
4D-2
LEVEL CONV (TO TTL)
4D-7
4C-10
IC4C
PHASE SHIFTER
4C-4,13
3C-1,11
IC3B,3C,5A
BURST SELECT
5A-9
5A-1,2
3C-5
3C-6
3C-9,13
3C-2,10
IC3B,3C,3E
PHASE COMP
TP502
3E-13
TP501
X500
VCO 11.586MHz
IC3G
3G-14,15
÷2
3G-11
Q503,504
Q504-B
CHROMA SELECTOR DRIVER
Q503-C
Q504-C
5G-7,8
5G-2
NORM
5G-3
INV
5G-6
RV505 CHROMA OFFSET BALANCE
(ONLY BVT-800PS BELOW #10300)
TP507
EQ500
DELAY 320nS
CHROMA
IC6F
6F-9
BURST FLAG GEN
6F-12
BF
6F-11
RV506 BURST WIDTH
Q505,508
Q505-B
BURST FORMER
Q508-C
IC6E
6E-4
6E-6
6E-9
S500 BURST ON
Q506-E
Q507-E
Q506,507
Q507-B
SC MOD
Q506-C
D
P SC
BP502
BPF 4.43MHz
RV507 BURST LEVEL
Q509
Q509-B
BUFFER
Q509-E
SUBCARRIER
IC5K
5K-2
5K-3
BLANKING & BURST ADD
5K-6
5K-7,8
RV508 BURST OFFSET BALANCE
Q512
Q512-B
BUFFER
Q512-E
TP506
OUT CHROMA
32A
PR-40,32B
J
BLK
IC3B,6E
3B-5
6E-3
6E-2
Q510,511
Q510-B
BLANKING DRIVER
Q510,511-C
G
BF
IC6F
6F-1
BURST POSITION PULSE GENERATOR
6F-13
BURST POSITION
IC3A,4B
4B-1,2
APC INHIBIT PULSE GENERATOR
3A-13
3A-8
4B-8
H
REF O/E
IC5C
5C-4
BURST SELECT LINE CONT
5C-5
5C-6
IC2H
2H-1
FREQUENCY CONVERTER
2H-6
2H-7,8
RV502 CARRIER NULL
BP501
BPF 4.43MHz
IC1F
CHROMA AMP
1F-8
RV503 INVERT CHROMA GAIN
Q502
Q502-B
CHROMA TUNE
Q502-C
TP503
IC1C
1C-2
LEVEL CONV (TO TTL)
1C-7
1B-10
IC1B
PHASE SHIFTER
1B-4,13
2B-1,11
RV504 INVERT CHROMA GAIN
IC1A, 2B,3B
1A-9
1A-1,2
2B-4
BURST SELECT
2B-6
2B-2,10
2B-9,13
IC2C,2B,3B
PHASE COMP
TP505
2C-13
TP504
X501
VCO 12.297MHz
IC2F
2F-14,15
÷4
2F-9
C
INV SC
IC8Z
8Z-1
READ Y-CLP PULSE GENERATOR
8Z-4
READ Y CLAMP PULSE
R Y CLP
38A
PR-40,35A

SG-67 BOARD **(2/2)**
BLOCK DIAGRAM
BVT-800PS (FOR PAL)
BKT-801

1 SG-68 BOARD (1/2); SECAM SYNC GEN

Reference Sync Generator
Advanced Sync Generator
Blanking Pulse Generator
Line DO Pulse Generator
Read Y Clamp Pulse Generator
System Phase Control
V Phase Control

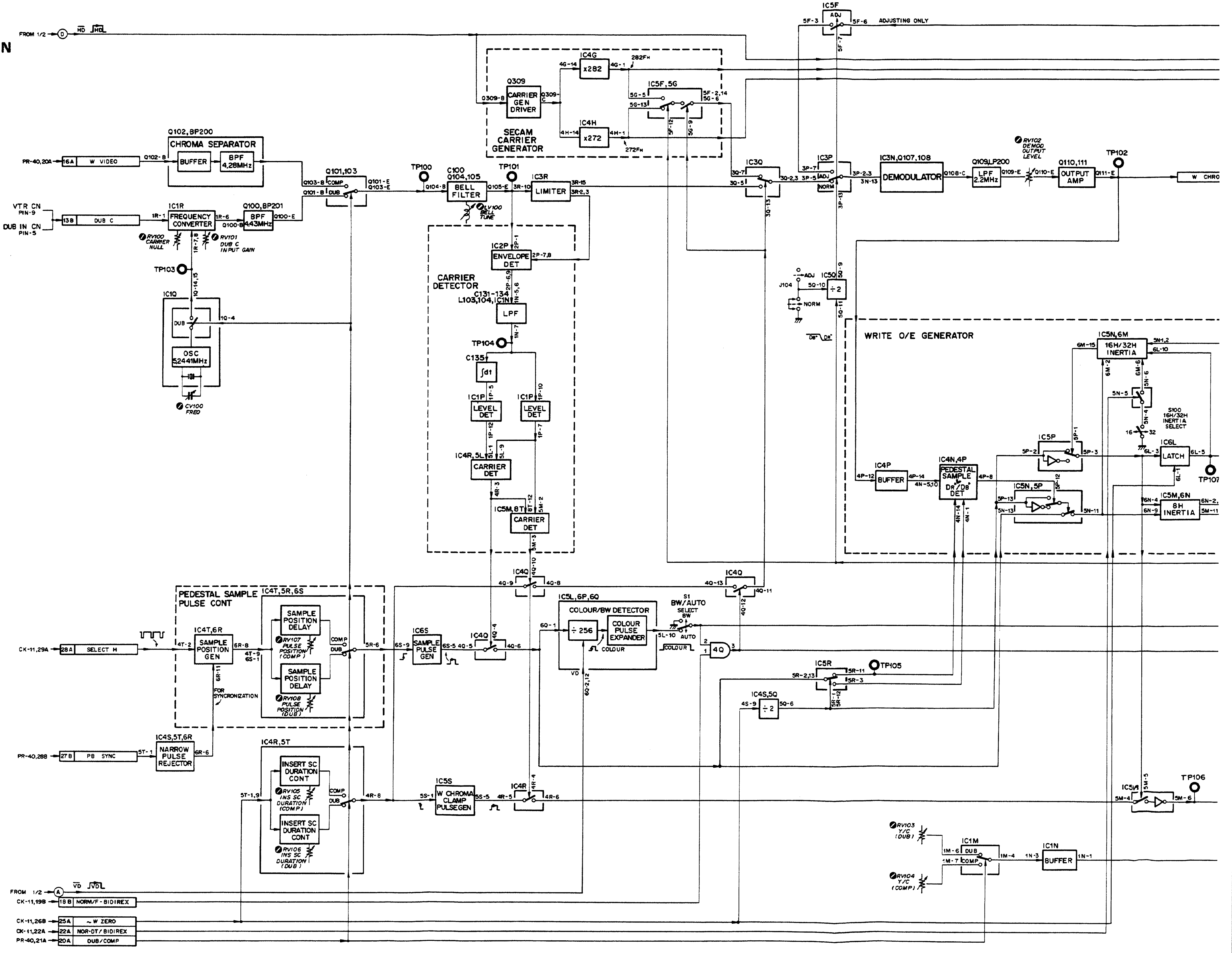

REF COMP VIDEO IN
CN32
CN33
41B
REF VIDEO
Q1-3
Q1-G
INPUT BUFFER
Q3-E
TP1
L6,C31
CHROMA SEP
Q4,L5,C14,15
Y SEP
Q4-E
8C-3
IC8C
SYNC TIP CLAMP
8C-1
TP2
7E-4
7E-5
IC7E
SYNC SEP
Q5,IC8C
Q5-D
PEDESTAL SAMPLE
8C-7
Q5-G
IC9C
9C-10
9C-12
RV1
V PHASE
J304
LOCAL
REMOTE
REMOTE CN PIN-13
5A
V PHASE
TP6
FLOATING
47B
REF ID
7E-10
IC7E
EXT O/E GEN
7E-7
7H-1
IC7H
7H-3
7H-2
NOR
J2
INV
IC8G
REMOTE CN PIN-1
6A
REMOTE H Φ
J305
REMOTE
LOCAL
RV2
SYSTEM PHASE H
IC8F, 8H, 9B
9B-3
8F-1
PHASE SHIFTER
8F-13
FH
8G-15
EXT DETECTOR
H SEPARATOR
8G-13
PHASE COMPARATOR
EXT
INT
8G-9
RV4
INT REF FREQ
V SEPARATOR
GEN LOCK DRIVER
VTR CN PIN-12
44B
NORMAL/CONF
CK-11, 34A
37B
~R ZERO
11
8S
10


TP5
C33
∫dt
RV3 BURST SELECT THRESHOLD
TP4
IC8B,9C
BURST SEP
CF1
BPF 4.55MHz
IC8B
DR' DB' BURST SEL
IC9D,9E
DR'/DB' DETECTOR
TP2
SYNC TIP CLAMP
Q5,IC8C
PEDESTAL SAMPLE
IC7E
SYNC SEP
TP3
IC8E,8H,9C
BURST FLAG GEN
INT/EXT
IC9C
EXT
IC9J
INT/EXT DETECTOR
INT/EXT
IC9J
+5V INT EXT
J3
EXT
INT
DR'/DR'
IC8G
EXT DETECTOR
H SEPARATOR
PHASE COMPARATOR
EXT
INT
INT CLOCK
V SEPARATOR
GEN LOCK DRIVER
IC9F Q6
ERROR S&H
ERROR GATE
BUFFER
TP7
X1
VCO 14.1875MHz
IC7J,7K,8K
EXT
1/454
1/2
1/2
1/625
LALT
FH
2FH
VD
V RESET
OUTPUT FF
REF SYNC GEN
IC7F,7G,7H 8H,9K
V DELAY COUNTER
IC7H
CONF
NORM
SYNC
VD
LALT
FH
F O/E
HD
IC8T,9L
LINE DO GEN
IC8L
V DELAY COUNTER
IC7L,9B,9P,9Q
ADVANCE CONT
ADVANCE CONT
FOR RESET
REF CK
IC8S,9R
ADV SYNC GENERATOR
Q7
ADV SYNC AMP
TP10
S2
+5V NORMAL
BYPASS
NORMAL/BYPASS
44A
DP-24A,CN13,11
IV-4A,CN21-8
LINE DO
34A
CK-11, 32A
CN30 ADV SYNC OUT
ADV SYNC
46A
VTR CN PIN-A
IC7S
SYNC DELAYER
REF SYNC
43A
IV-4A,CN21-5
TP8
VD
37A
CK-11,34B
VD
A TO 2/2
TP9
IC7T
REF O/E GEN
TIMING ADJ
TIMING ADJ
FH
R ZERO
REF O/E
34B
CK-11,32B
REF O/E
B TO 2/2
IC7H, 7R
00π GEN
LINE COUNTER
00π
C TO 2/2
REF H
35A
CK-11,33B
FIELD O/E
39B
CK-11,35B
HD
D TO 2/2
IC9Q
R Y CLP PULSE GEN
CLAMP
R Y CLP
38A
PR-40,35A
HD
IC9N
C H BLANK GEN
RV5 CHROMINANCE SC BLK WIDTH
VD
IC8Q
V INH GEN
J4 CHROMINANCE SC BLK
ON
OFF
IC9K
V INH
E TO 2/2
C BLK-2
F TO 2/2
IC7L,9K
6TH LINE DETECTOR
IC7M, 8M
DELAY
S3,4 V BLK LINE SELECTOR
C BLK-1
G TO 2/2
IC9K
TP11
BLK
38B
PR-40,35B
IC8Q
S5
1D ON
ID POSITION PULSE GEN
ID POSITION
H TO 2/2
IC9N
Y H BLK GEN
RV6 LINE BLK WIDTH

SG-68 BOARD **(1/2)**
BLOCK DIAGRAM
BVT-800PS(FOR SECAM)
BKT-802

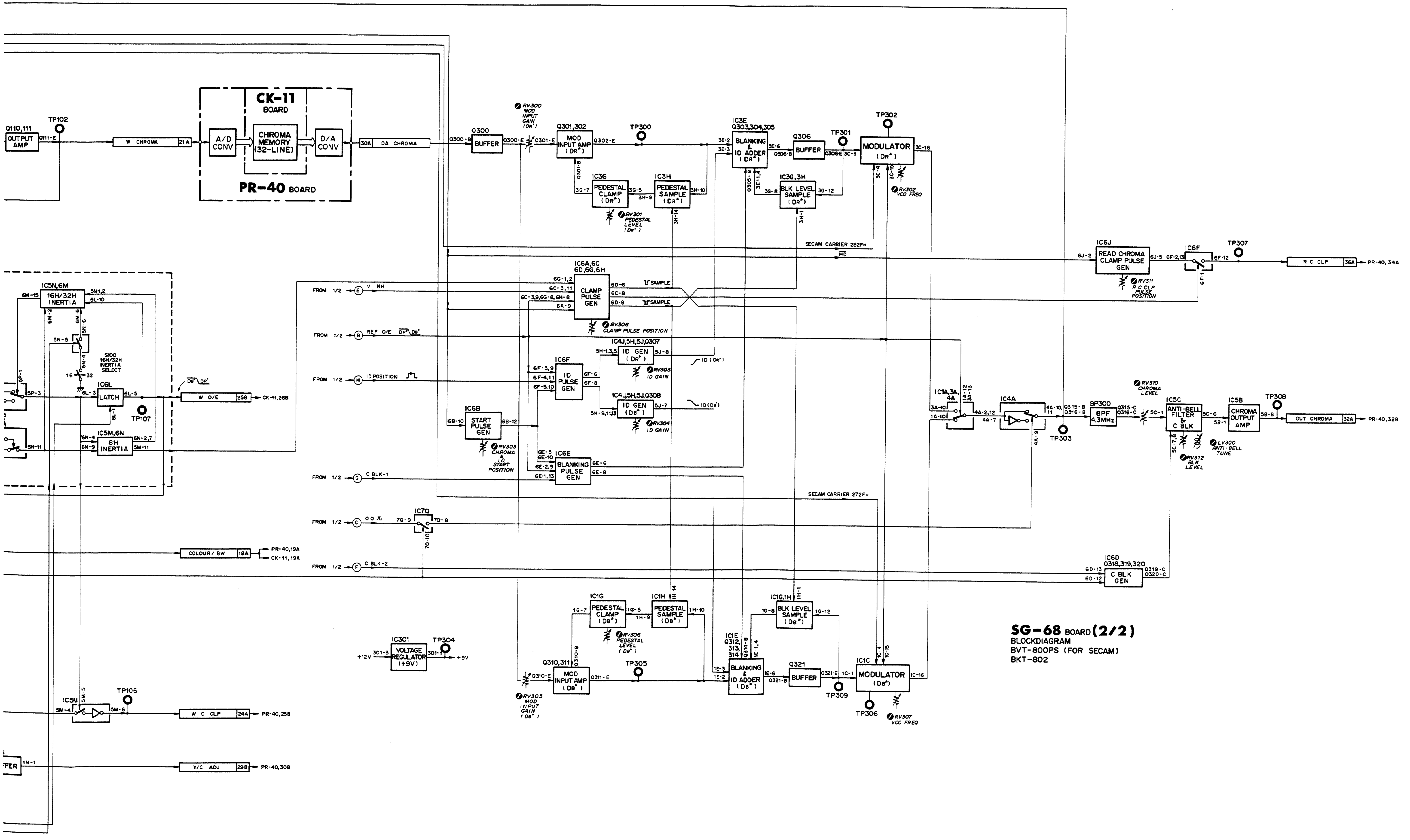
1 SG-68 BOARD (2/2); SECAM SYNC GEN

- Chroma Separator (for COMP)
- Chroma Frequency Up Converter (for DUB)
- DR'/DB' Demodulator
- SECAM Carrier Detector
- Chroma Insert Pulse Generator
- Write O/E Pulse Generator
- Color/BW Detector
- Write Chroma Clamp Pulse Generator


FROM 1/2 D HD
IC5F ADJ
5F-3
5F-6
ADJUSTING ONLY
IC4G x282
282FH
Q309 CARRIER GEN DRIVER
IC5F,5G
IC4H x272
272FH
SECAM CARRIER GENERATOR
Q102,BP200 CHROMA SEPARATOR
BUFFER
BPF 4.28MHz
PR-40,20A 16A W VIDEO
VTR CN PIN-9
DUB IN CN PIN-5
13B DUB C
IC1R FREQUENCY CONVERTER
Q100,BP201 BPF 4.43MHz
RV100 CARRIER NULL
RV101 DUB C INPUT GAIN
TP103
IC1Q
DUB
OSC 5.2441MHz
CV100 FREQ
Q101,103
COMP
DUB
TP100
C100 Q104,105 BELL FILTER
LV100 BELL TUNE
TP101
IC3R LIMITER
IC2P ENVELOPE DET
CARRIER DETECTOR
C131-134 L103,104,IC1N
LPF
TP104
C135
∫dt
IC1P LEVEL DET
IC1P LEVEL DET
IC4R,5L CARRIER DET
IC5M,8T CARRIER DET
IC3Q
IC3P
ADJ
NORM
IC3N,Q107,108 DEMODULATOR
Q109,LP200 LPF 2.2MHz
RV102 DEMOD OUTPUT LEVEL
Q110,111 OUTPUT AMP
TP102
W CHRO
J104
ADJ
NORM
IC5Q ÷2
DR' DB'
WRITE O/E GENERATOR
IC5N,6M 16H/32H INERTIA
S100 16H/32H INERTIA SELECT
IC5P
IC6L LATCH
TP107
IC4P BUFFER
IC4N,4P PEDESTAL SAMPLE DR/DB DET
IC5N,5P
IC5M,6N 8H INERTIA
IC4Q
IC4Q
PEDESTAL SAMPLE PULSE CONT
IC4T,5R,6S
IC4T,6R SAMPLE POSITION GEN
SAMPLE POSITION DELAY
RV107 PULSE POSITION (COMP)
SAMPLE POSITION DELAY
RV108 PULSE POSITION (DUB)
FOR SYNCRONIZATION
CK-11,29A 28A SELECT H
IC6S SAMPLE PULSE GEN
IC4Q
IC5L,6P,6Q COLOUR/BW DETECTOR
÷256
COLOUR PULSE EXPANDER
COLOUR
S1 BW/AUTO SELECT
BW
AUTO
4Q
IC5R
TP105
IC4S,5Q ÷2
IC4S,5T,6R NARROW PULSE REJECTOR
PR-40,28B 27B PB SYNC
IC4R,5T
INSERT SC DURATION CONT
RV105 INS SC DURATION (COMP)
INSERT SC DURATION CONT
RV106 INS SC DURATION (DUB)
IC5S W CHROMA CLAMP PULSE GEN
IC4R
IC5M
TP106
RV103 Y/C (DUB)
RV104 Y/C (COMP)
IC1M DUB COMP
IC1N BUFFER
FROM 1/2 A VD
CK-11,19B 18B NORM/F-BIDIREX
CK-11,26B 25A ~W ZERO
CK-11,22A 22A NOR-DT/BIDIREX
PR-40,21A 20A DUB/COMP

A-21 (BVT-800PS)
A-9 (BKT-802)

A-22 (BVT-800PS)
A-10 (BKT-802)


CK-11 BOARD
CHROMA MEMORY (32-LINE)
A/D CONV
D/A CONV
PR-40 BOARD
Q110,111 OUTPUT AMP
TP102
W CHROMA 21A
30A DA CHROMA
Q300 BUFFER
RV300 MOD INPUT GAIN (DR')
Q301,302 MOD INPUT AMP (DR')
TP300
IC3G PEDESTAL CLAMP (DR')
RV301 PEDESTAL LEVEL (DR')
IC3H PEDESTAL SAMPLE (DR')
IC3E Q303,304,305 BLANKING & ID ADDER (DR')
Q306 BUFFER
TP301
TP302
MODULATOR (DR')
RV302 VCO FREQ
IC3G,3H BLK LEVEL SAMPLE (DR')
SECAM CARRIER 282FH
HD
IC6J READ CHROMA CLAMP PULSE GEN
RV311 R C CLP PULSE POSITION
IC6F
TP307
R C CLP 36A PR-40, 34A
IC5N,6M 16H/32H INERTIA
S100 16H/32H INERTIA SELECT
IC6L LATCH
TP107
IC5M,6N 8H INERTIA
W O/E 25B CK-11,26B
IC6A,6C 6D,6G,6H CLAMP PULSE GEN
RV308 CLAMP PULSE POSITION
FROM 1/2 E V INH
FROM 1/2 B REF O/E
FROM 1/2 H ID POSITION
FROM 1/2 G C BLK-1
FROM 1/2 C OO π
FROM 1/2 F C BLK-2
IC4J,5H,5J,Q307 ID GEN (DR')
RV303 ID GAIN
ID (DR')
IC6F ID PULSE GEN
IC4J,5H,5J,Q308 ID GEN (DB')
RV304 ID GAIN
ID (DB')
IC6B START PULSE GEN
RV303 CHROMA & ID START POSITION
IC6E BLANKING PULSE GEN
IC1A,3A, 4A
IC4A
TP303
RV310 CHROMA LEVEL
BP300 BPF 4.3MHz
IC5C ANTI-BELL FILTER & C BLK
RV312 BLK LEVEL
LV300 ANTI-BELL TUNE
IC5B CHROMA OUTPUT AMP
TP308
OUT CHROMA 32A PR-40, 32B
SECAM CARRIER 272FH
IC7Q
COLOUR/BW 18A PR-40,19A CK-11, 19A
IC6D Q318,319,320 C BLK GEN
IC1G PEDESTAL CLAMP (DB')
RV306 PEDESTAL LEVEL (DB')
IC1H PEDESTAL SAMPLE (DB')
IC1G,1H BLK LEVEL SAMPLE (DB')
IC301 VOLTAGE REGULATOR (+9V)
+12V
+9V
TP304
Q310,311 MOD INPUT AMP (DB')
RV305 MOD INPUT GAIN (DB')
TP305
IC1E Q312, 313, 314 BLANKING & ID ADDER (DB')
Q321 BUFFER
TP309
IC1C MODULATOR (DB')
TP306
RV307 VCO FREQ
IC5M
TP106
W C CLP 24A PR-40,25B
Y/C ADJ 29B PR-40,30B

SG-68 BOARD **(2/2)**
BLOCKDIAGRAM
BVT-800PS (FOR SECAM)
BKT-802

2 **PR-4**

DUB

Input

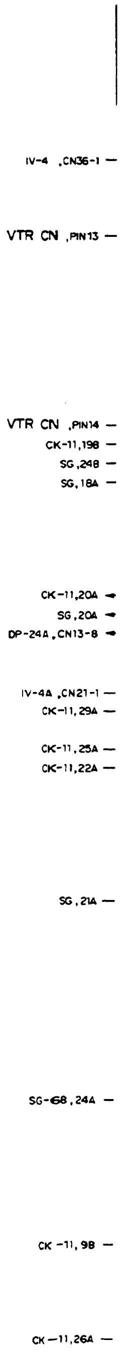
Y Co

PB V,

Y A-D

Input

C A-D

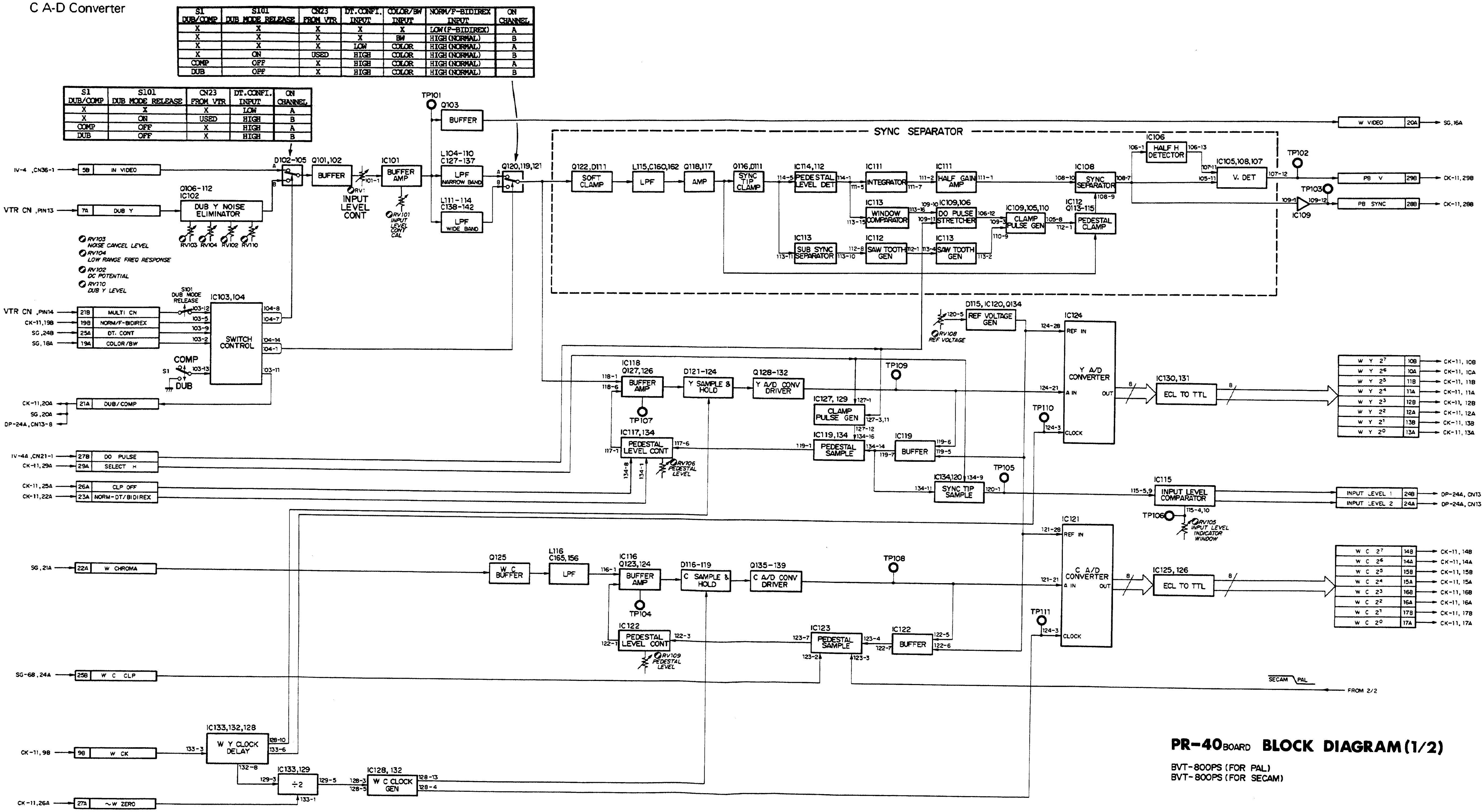

IV-4 ,CN36-1
VTR CN ,PIN13
VTR CN ,PIN14
CK-11,19B
SG,24B
SG,18A
CK-11,20A
SG,20A
DP-24A,CN13-8
IV-4A ,CN21-1
CK-11,29A
CK-11,25A
CK-11,22A
SG,21A
SG-68,24A
CK-11,9B
CK-11,26A

2 PR-40 BOARD (1/2); PROCESSOR

DUB Y Noise Eliminator
Input Level Control
Y Color/BW Select
PB V, PB Sync Generator
Y A-D Converter
Input Level Detector
C A-D Converter

S1 DUB/COMP	S101 DUB MODE RELEASE	CN23 FROM VTR	DT.CONFI. INPUT	COLOR/BW INPUT	NORM/F-BIDIREX INPUT	ON CHANNEL
X	X	X	X	X	LOW(F-BIDIREX)	A
X	X	X	X	BW	HIGH(NORMAL)	B
X	X	X	LOW	COLOR	HIGH(NORMAL)	A
X	ON	USED	HIGH	COLOR	HIGH(NORMAL)	B
COMP	OFF	X	HIGH	COLOR	HIGH(NORMAL)	A
DUB	OFF	X	HIGH	COLOR	HIGH(NORMAL)	B

S1 DUB/COMP	S101 DUB MODE RELEASE	CN23 FROM VTR	DT.CONFI. INPUT	ON CHANNEL
X	X	X	LOW	A
X	ON	USED	HIGH	B
COMP	OFF	X	HIGH	A
DUB	OFF	X	HIGH	B

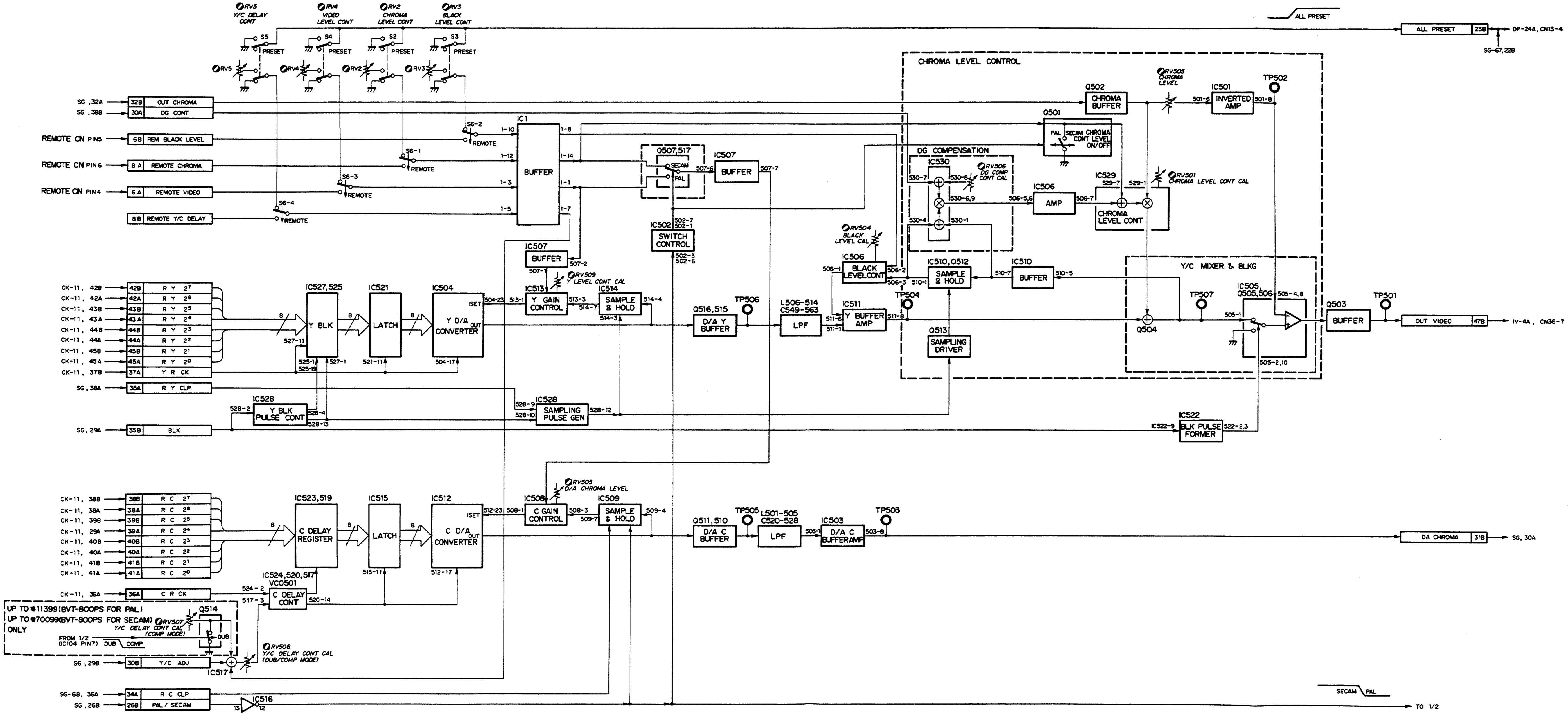

IV-4 ,CN36-1
5B IN VIDEO
VTR CN ,PIN13
7A DUB Y
Q106-112
IC102
DUB Y NOISE ELIMINATOR
RV103 RV104 RV102 RV110
RV103 NOISE CANCEL LEVEL
RV104 LOW RANGE FREQ RESPONSE
RV102 DC POTENTIAL
RV110 DUB Y LEVEL
D102-105
Q101,102
BUFFER
101-1
RV1
INPUT LEVEL CONT
IC101
BUFFER AMP
RV101 INPUT LEVEL CONT CAL
TP101
Q103
BUFFER
L104-110
C127-137
LPF NARROW BAND
L111-114
C138-142
LPF WIDE BAND
Q120,119,121
VTR CN ,PIN14
CK-11,19B
SG,24B
SG,18A
21B MULTI CN
19B NORM/F-BIDIREX
25A DT. CONT
19A COLOR/BW
S101 DUB MODE RELEASE
IC103,104
SWITCH CONTROL
103-12
103-5
103-9
103-2
103-13
104-8
104-7
104-14
104-1
103-11
COMP
S1
DUB
CK-11,20A
SG,20A
DP-24A,CN13-8
21A DUB/COMP
IV-4A ,CN21-1
CK-11,29A
27B DO PULSE
29A SELECT H
CK-11,25A
CK-11,22A
26A CLP OFF
23A NORM-DT/BIDIREX
SYNC SEPARATOR
Q122,D111
SOFT CLAMP
L115,C160,162
LPF
Q118,117
AMP
Q116,D111
SYNC TIP CLAMP
IC114,112
PEDESTAL LEVEL DET
114-5
114-1
IC111
INTEGRATOR
111-5
111-7
111-2
IC111
HALF GAIN AMP
111-1
IC113
WINDOW COMPARATOR
113-15
113-16
109-10
109-11
IC109,106
DO PULSE STRETCHER
106-12
109-3
IC109,105,110
CLAMP PULSE GEN
105-8
112-1
110-9
IC113
SUB SYNC SEPARATOR
113-11
113-10
112-8
IC112
SAW TOOTH GEN
112-1
113-4
IC113
SAW TOOTH GEN
113-2
IC108
SYNC SEPARATOR
108-10
108-7
108-9
IC112
Q113-115
PEDESTAL CLAMP
IC106
HALF H DETECTOR
106-1
106-13
IC105,108,107
V. DET
107-11
105-11
107-12
TP102
TP103
109-1
109-12
IC109
W VIDEO 20A
SG,16A
PB V 29B
CK-11,29B
PB SYNC 28B
CK-11,28B
D115, IC120, Q134
REF VOLTAGE GEN
120-5
RV108 REF VOLTAGE
IC124
124-28
REF IN
Y A/D CONVERTER
124-21
A IN
OUT
124-3
CLOCK
TP110
8
IC130,131
ECL TO TTL
8
W Y 2^7 10B CK-11, 10B
W Y 2^6 10A CK-11, 10A
W Y 2^5 11B CK-11, 11B
W Y 2^4 11A CK-11, 11A
W Y 2^3 12B CK-11, 12B
W Y 2^2 12A CK-11, 12A
W Y 2^1 13B CK-11, 13B
W Y 2^0 13A CK-11, 13A
IC118
Q127,126
118-1
118-6
BUFFER AMP
TP107
D121-124
Y SAMPLE & HOLD
Q128-132
Y A/D CONV DRIVER
TP109
IC127, 129
CLAMP PULSE GEN
127-1
127-3,11
127-12
134-16
IC117,134
PEDESTAL LEVEL CONT
117-1
117-6
134-8
134-1
RV106 PEDESTAL LEVEL
IC119,134
PEDESTAL SAMPLE
119-1
134-14
119-7
IC119
BUFFER
119-6
119-5
IC134,120
134-9
SYNC TIP SAMPLE
134-11
120-1
TP105
IC115
115-5,9
INPUT LEVEL COMPARATOR
115-4,10
TP106
RV105 INPUT LEVEL INDICATOR WINDOW
INPUT LEVEL 1 24B DP-24A, CN13-9
INPUT LEVEL 2 24A DP-24A, CN13-10
SG,21A
22A W CHROMA
Q125
W C BUFFER
L116
C165,156
LPF
IC116
Q123,124
116-1
BUFFER AMP
TP104
D116-119
C SAMPLE & HOLD
Q135-139
C A/D CONV DRIVER
TP108
IC122
PEDESTAL LEVEL CONT
122-1
122-3
RV109 PEDESTAL LEVEL
IC123
PEDESTAL SAMPLE
123-7
123-4
123-2
123-3
IC122
BUFFER
122-7
122-5
122-6
IC121
121-28
REF IN
C A/D CONVERTER
121-21
A IN
OUT
TP111
124-3
CLOCK
8
IC125, 126
ECL TO TTL
8
W C 2^7 14B CK-11, 14B
W C 2^6 14A CK-11, 14A
W C 2^5 15B CK-11, 15B
W C 2^4 15A CK-11, 15A
W C 2^3 16B CK-11, 16B
W C 2^2 16A CK-11, 16A
W C 2^1 17B CK-11, 17B
W C 2^0 17A CK-11, 17A
SECAM PAL
FROM 2/2
SG-6B,24A
25B W C CLP
IC133,132,128
CK-11,9B
9B W CK
133-3
W Y CLOCK DELAY
128-10
133-6
132-8
IC133,129
129-3
÷2
129-5
133-1
CK-11,26A
27A ~W ZERO
IC128, 132
128-3
128-5
W C CLOCK GEN
128-13
128-4

PR-40 BOARD BLOCK DIAGRAM (1/2)

BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

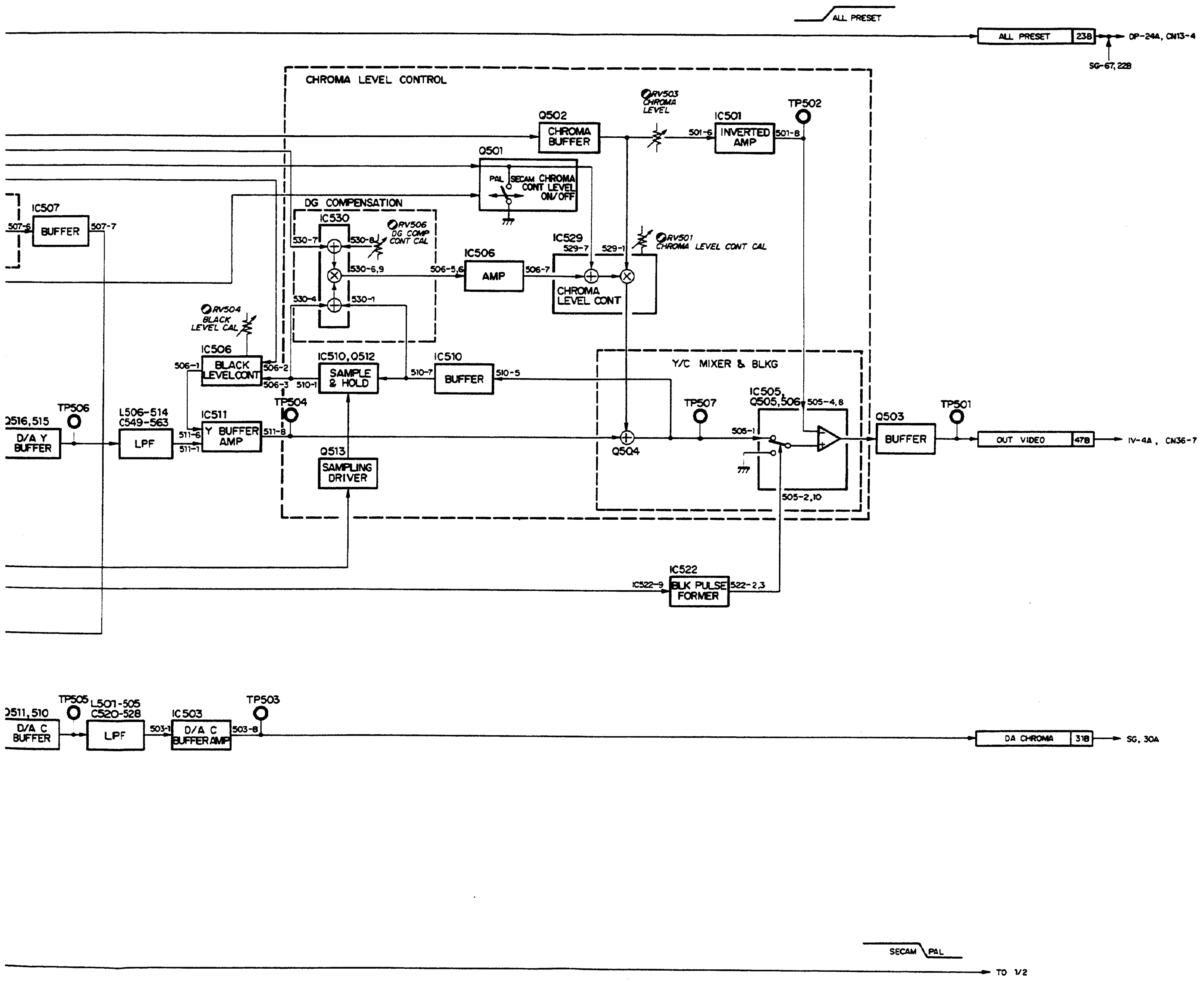
2 PR-40 BOARD (2/2); PROCESSOR

Y D-A Converter
C D-A Converter
Video, Chroma, Black Level Control
Y/C Delay, DG Compensation Control


RV5 Y/C DELAY CONT
RV4 VIDEO LEVEL CONT
RV2 CHROMA LEVEL CONT
RV3 BLACK LEVEL CONT
S5
S4
S2
S3
PRESET
ALL PRESET
ALL PRESET 23B
DP-24A, CN13-4
SG-67, 22B
SG, 32A
SG, 38B
32B OUT CHROMA
30A DG CONT
REMOTE CN PIN5
6B REM BLACK LEVEL
REMOTE CN PIN6
8A REMOTE CHROMA
REMOTE CN PIN4
6A REMOTE VIDEO
8B REMOTE Y/C DELAY
S6-1
S6-2
S6-3
S6-4
REMOTE
IC1
BUFFER
Q507,517
SECAM
PAL
IC507
BUFFER
IC502
SWITCH CONTROL
CHROMA LEVEL CONTROL
Q502
CHROMA BUFFER
RV503 CHROMA LEVEL
IC501
INVERTED AMP
TP502
Q501
PAL SECAM CHROMA CONT LEVEL ON/OFF
DG COMPENSATION
IC530
RV506 DG COMP CONT CAL
IC506
AMP
IC529
RV501 CHROMA LEVEL CONT CAL
CHROMA LEVEL CONT
RV504 BLACK LEVEL CAL
IC506
BLACK LEVEL CONT
IC510,Q512
SAMPLE & HOLD
IC510
BUFFER
Y/C MIXER & BLKG
TP507
IC505, Q505,506
TP501
Q503
BUFFER
OUT VIDEO 47B
IV-4A, CN36-7
Q504
CK-11, 42B
CK-11, 42A
CK-11, 43B
CK-11, 43A
CK-11, 44B
CK-11, 44A
CK-11, 45B
CK-11, 45A
CK-11, 37B
SG, 38A
R Y 2⁷
R Y 2⁶
R Y 2⁵
R Y 2⁴
R Y 2³
R Y 2²
R Y 2¹
R Y 2⁰
Y R CK
35A R Y CLP
SG, 29A
35B BLK
IC527,525
Y BLK
IC521
LATCH
IC504
Y D/A CONVERTER
ISET
OUT
IC507
BUFFER
IC513
Y GAIN CONTROL
RV509 Y LEVEL CONT CAL
IC514
SAMPLE & HOLD
Q516,515
D/A Y BUFFER
TP506
L506-514 C549-563
LPF
IC511
Y BUFFER AMP
TP504
Q513
SAMPLING DRIVER
IC528
Y BLK PULSE CONT
IC528
SAMPLING PULSE GEN
IC522
BLK PULSE FORMER
CK-11, 38B
CK-11, 38A
CK-11, 39B
CK-11, 29A
CK-11, 40B
CK-11, 40A
CK-11, 41B
CK-11, 41A
R C 2⁷
R C 2⁶
R C 2⁵
R C 2⁴
R C 2³
R C 2²
R C 2¹
R C 2⁰
CK-11, 36A
36A C R CK
IC523,519
C DELAY REGISTER
IC515
LATCH
IC512
C D/A CONVERTER
RV505 D/A CHROMA LEVEL
IC508
C GAIN CONTROL
IC509
SAMPLE & HOLD
Q511,510
D/A C BUFFER
TP505
L501-505 C520-528
LPF
IC503
D/A C BUFFER AMP
TP503
DA CHROMA 31B
SG, 30A
IC524,520,517
VCO501
C DELAY CONT
UP TO #11399(BVT-800PS FOR PAL)
UP TO #70099(BVT-800PS FOR SECAM)
ONLY
Q514
RV507 Y/C DELAY CONT CAL (COMP MODE)
FROM 1/2 (IC104 PIN7)
DUB
COMP
RV508 Y/C DELAY CONT CAL (DUB/COMP MODE)
SG, 29B
30B Y/C ADJ
IC517
SG-68, 36A
34A R C CLP
SG, 26B
26B PAL/SECAM
IC516
SECAM
PAL
TO 1/2

PR-40 BOARD BLOCK DIAGRAM (2/2)

BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

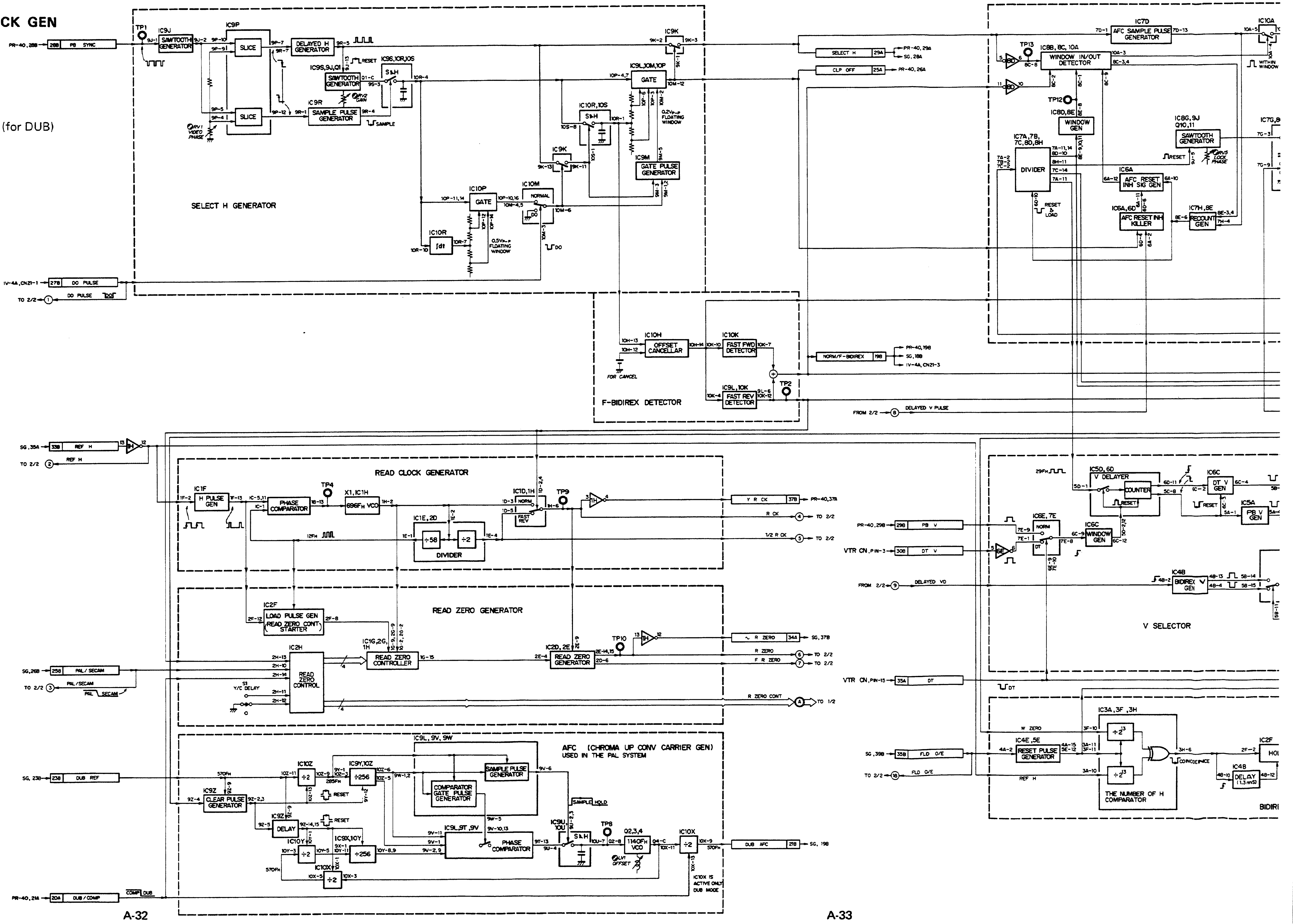

ALL PRESET
ALL PRESET
23B
DP-24A, CN13-4
SG-67, 22B
CHROMA LEVEL CONTROL
RV503
CHROMA
LEVEL
TP502
Q502
CHROMA BUFFER
IC501
501-6
INVERTED AMP
501-8
Q501
PAL
SECAM
CHROMA CONT LEVEL ON/OFF
IC507
507-6
BUFFER
507-7
DG COMPENSATION
IC530
530-7
530-8
RV506
DG COMP
CONT CAL
530-6,9
530-4
530-1
IC506
506-5,6
AMP
506-7
IC529
529-7
529-1
RV501
CHROMA LEVEL CONT CAL
CHROMA LEVEL CONT
RV504
BLACK
LEVEL CAL
IC506
506-1
BLACK LEVELCONT
506-2
506-3
IC510, Q512
510-1
SAMPLE & HOLD
510-7
IC510
BUFFER
510-5
Y/C MIXER & BLKG
TP506
Q516, 515
D/A Y BUFFER
L506-514
C549-563
LPF
IC511
511-6
511-1
Y BUFFER AMP
511-8
TP504
Q504
TP507
IC505, Q505, 506
505-4, 8
505-1
505-2,10
Q503
BUFFER
TP501
OUT VIDEO
47B
IV-4A, CN36-7
Q513
SAMPLING DRIVER
IC522
IC522-9
BLK PULSE FORMER
522-2,3
TP505
Q511, 510
D/A C BUFFER
L501-505
C520-528
LPF
IC503
503-1
D/A C BUFFERAMP
503-8
TP503
DA CHROMA
31B
SG, 30A
SECAM
PAL
TO 1/2

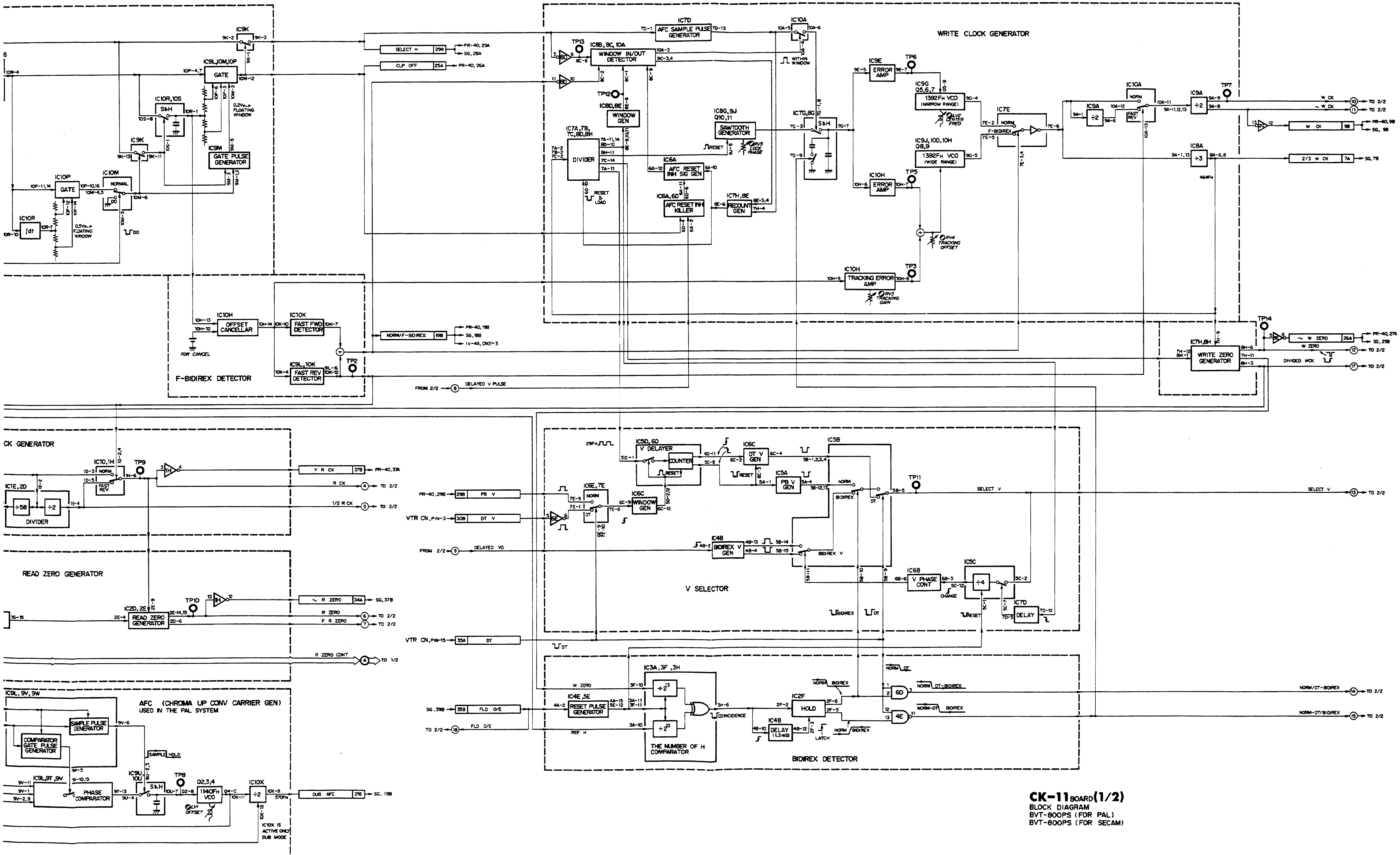
PR-40 BOARD **BLOCK DIAGRAM (2/2)**

BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

3 CK-11 BOARD (1/2); CLOCK GEN

Select H Generator
F-Bidirex Detector
Write Clock Generator
Write Zero Generator
Read Clock Generator
Read Zero Generator
Chroma Up Conv. Carrier Gen. (for DUB)
V Selector
Bidirex Detector

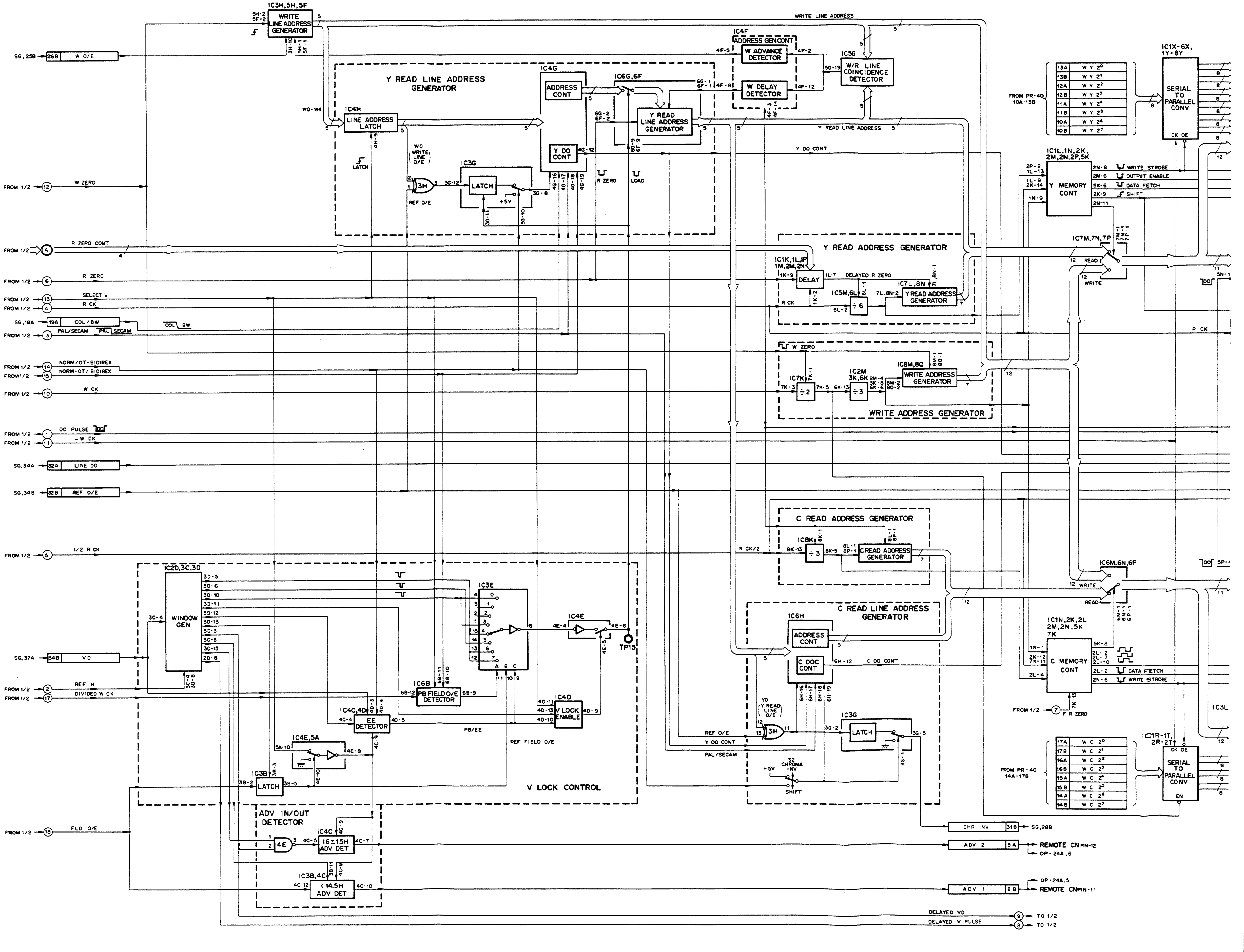

SELECT H GENERATOR
PR-40,28B
28B PB SYNC
TP1
IC9J SAWTOOTH GENERATOR
IC9P SLICE
SLICE
RV1 VIDEO PHASE
DELAYED H GENERATOR
RESET
IC9S,9J,Q1 SAWTOOTH GENERATOR
RV2 GAIN
IC9S,10R,10S S&H
IC9R SAMPLE PULSE GENERATOR
SAMPLE
IC9K
IC9L,10M,10P GATE
IC10R,10S S&H
0.2Vp-p FLOATING WINDOW
IC9K
IC9M GATE PULSE GENERATOR
IC10P GATE
IC10M NORMAL DO
IC10R ∫dt
0.5Vp-p FLOATING WINDOW
DO
IV-4A,CN21-1
27B DO PULSE
TO 2/2 ① DO PULSE
F-BIDIREX DETECTOR
IC10H OFFSET CANCELLAR
FOR CANCEL
IC10K FAST FWD DETECTOR
IC9L,10K FAST REV DETECTOR
TP2
NORM/F-BIDIREX 19B
PR-40,19B
SG,18B
IV-4A,CN21-3
FROM 2/2 ⑧ DELAYED V PULSE
SELECT H 29A PR-40,29A SG,28A
CLP OFF 25A PR-40,26A
IC7D AFC SAMPLE PULSE GENERATOR
IC10A
WITHIN WINDOW
TP13
IC8B,8C,10A WINDOW IN/OUT DETECTOR
TP12
IC8D,8E WINDOW GEN
IC7A,7B,7C,8D,8H DIVIDER
RESET & LOAD
IC8G,9J Q10,11 SAWTOOTH GENERATOR
RESET
RV3 LOCK PHASE
IC6A AFC RESET INH SIG GEN
IC6A,6D AFC RESET INH KILLER
IC7H,8E RECOUNT GEN
IC7G,8
SG,35A
33B REF H
TO 2/2 ② REF H
1H
READ CLOCK GENERATOR
IC1F H PULSE GEN
PHASE COMPARATOR
TP4
X1,IC1H 696FH VCO
IC1E,2D ÷58 ÷2 DIVIDER
12FH
IC1D,1H NORM FAST REV
TP9
1H
Y R CK 37B PR-40,37A
R CK ④ TO 2/2
1/2 R CK ⑤ TO 2/2
READ ZERO GENERATOR
IC2F LOAD PULSE GEN READ ZERO CONT STARTER
IC2H READ ZERO CONTROL
S1 Y/C DELAY
IC1G,2G,1H READ ZERO CONTROLLER
IC2D,2E READ ZERO GENERATOR
TP10
1H
R ZERO 34A SG,37B
R ZERO ⑥ TO 2/2
F R ZERO ⑦ TO 2/2
R ZERO CONT Ⓐ TO 1/2
SG,26B
25B PAL/SECAM
TO 2/2 ③ PAL/SECAM
AFC (CHROMA UP CONV CARRIER GEN) USED IN THE PAL SYSTEM
SG,23B
23B DUB REF
IC9Z CLEAR PULSE GENERATOR
IC10Z ÷2
IC9Y,10Z ÷256
285FH
570FH
RESET
IC9L,9V,9W SAMPLE PULSE GENERATOR
COMPARATOR GATE PULSE GENERATOR
IC9Z DELAY
IC10Y ÷2
IC9X,10Y ÷256
IC10X ÷2
IC9L,9T,9V PHASE COMPARATOR
IC9U,10U S&H
SAMPLE HOLD
TP8
Q2,3,4 1140FH VCO
RV1 OFFSET
IC10X ÷2
IC10X IS ACTIVE ONLY DUB MODE
DUB AFC 21B SG,19B
PR-40,21A
20A DUB/COMP
COMP DUB
PR-40,29B
29B PB V
VTR CN,PIN-3
30B DT V
FROM 2/2 ⑨ DELAYED VD
IC5D,6D V DELAYER
COUNTER
RESET
29FH
IC6C DT V GEN
IC5A PB V GEN
IC6E,7E NORM DT
IC6C WINDOW GEN
IC4B BIDIREX V GEN
V SELECTOR
VTR CN,PIN-15
35A DT
DT
SG,39B
35B FLD O/E
TO 2/2 ⑩ FLD O/E
W ZERO
IC4E,5E RESET PULSE GENERATOR
REF H
IC3A,3F,3H ÷2^13 ÷2^13
THE NUMBER OF H COMPARATOR
COINCIDENCE
IC4B DELAY (1.3mS)
IC2F
BIDIRI


WRITE CLOCK GENERATOR
IC7D AFC SAMPLE PULSE GENERATOR
IC10A
WITHIN WINDOW
TP13
IC8B, 8C, 10A WINDOW IN/OUT DETECTOR
TP12
IC8D, 8E WINDOW GEN
IC7A, 7B, 7C, 8D, 8H DIVIDER
RESET & LOAD
IC8G, 9J Q10, 11 SAWTOOTH GENERATOR
RV5 LOCK PHASE
IC6A AFC RESET INH SIG GEN
IC6A, 6D AFC RESET INH KILLER
IC7H, 8E RECOUNT GEN
IC7G, 8G S&H
IC9E ERROR AMP
TP6
IC9G Q5, 6, 7 1392FH VCO (NARROW RANGE)
RV2 CENTER FREQ
IC9J, 10D, 10H Q8, 9 1392FH VCO (WIDE RANGE)
IC7E NORM F-BIDIREX
IC10H ERROR AMP
TP5
RV4 TRACKING OFFSET
IC10H TRACKING ERROR AMP
TP3
RV3 TRACKING GAIN
IC10A NORM FAST REV
IC9A ÷2
IC9A ÷2
TP7
IC8A ÷3
464FH
W CK
~ W CK
TO 2/2
W CK 9B PR-40, 9B SG, 9B
2/3 W CK 7A SG, 7B
TP14
IC7H, 8H WRITE ZERO GENERATOR
~ W ZERO 26A PR-40, 27A SG, 25B
W ZERO
DIVIDED WCK
IC9K
IC9L, 10M, 10P GATE
0.2Vp-p FLOATING WINDOW
IC10R, 10S S&H
IC9M GATE PULSE GENERATOR
IC9K
IC10P GATE
IC10M NORMAL
IC10R ∫dt
0.5Vp-p FLOATING WINDOW
DD
SELECT H 29A PR-40, 29A SG, 28A
CLP OFF 25A PR-40, 26A
F-BIDIREX DETECTOR
IC10H OFFSET CANCELLAR
FOR CANCEL
IC10K FAST FWD DETECTOR
IC9L, 10K FAST REV DETECTOR
TP2
NORM/F-BIDIREX 19B PR-40, 19B SG, 18B IV-4A, CN21-3
FROM 2/2 ⑧ DELAYED V PULSE
CK GENERATOR
IC1D, 1H NORM FAST REV
TP9
IC1E, 2D ÷58 ÷2 DIVIDER
Y R CK 37B PR-40, 37A
R CK ④ TO 2/2
1/2 R CK ⑤ TO 2/2
READ ZERO GENERATOR
TP10
IC2D, 2E READ ZERO GENERATOR
~ R ZERO 34A SG, 37B
R ZERO ⑥ TO 2/2
F R ZERO ⑦ TO 2/2
R ZERO CONT Ⓐ TO 1/2
AFC (CHROMA UP CONV CARRIER GEN) USED IN THE PAL SYSTEM
IC9L, 9V, 9W
SAMPLE PULSE GENERATOR
COMPARATOR GATE PULSE GENERATOR
SAMPLE HOLD
IC9L, 9T, 9V PHASE COMPARATOR
IC9U, 10U S&H
TP8
Q2, 3, 4 1140FH VCO
RV1 OFFSET
IC10X ÷2
570FH
IC10X IS ACTIVE ONLY DUB MODE
DUB AFC 21B SG, 19B
29FH
IC5D, 6D V DELAYER COUNTER RESET
IC6C DT V GEN
IC5B
IC5A PB V GEN
NORM BIDIREX DT
TP11
SELECT V ⑬ TO 2/2
PR-40, 29B 29B PB V
VTR CN, PIN-3 30B DT V
IC6E, 7E NORM DT
IC6C WINDOW GEN
FROM 2/2 ⑨ DELAYED VD
IC4B BIDIREX V GEN
BIDIREX V
IC6B V PHASE CONT
CHANGE
IC5C ÷4
IC7D DELAY
RESET
V SELECTOR
BIDIREX DT
VTR CN, PIN-15 35A DT
DT
IC3A, 3F, 3H ÷2^13 ÷2^13
W ZERO
IC4E, 5E RESET PULSE GENERATOR
REF H
COINCIDENCE
THE NUMBER OF H COMPARATOR
IC2F HOLD
IC4B DELAY (1.3mS)
LATCH
NORM/BIDIREX
NORM/DT
6D 4E
NORM/DT-BIDIREX ⑭ TO 2/2
NORM-DT/BIDIREX ⑮ TO 2/2
SG, 39B 35B FLD O/E
TO 2/2 ⑱ FLD O/E
BIDIREX DETECTOR

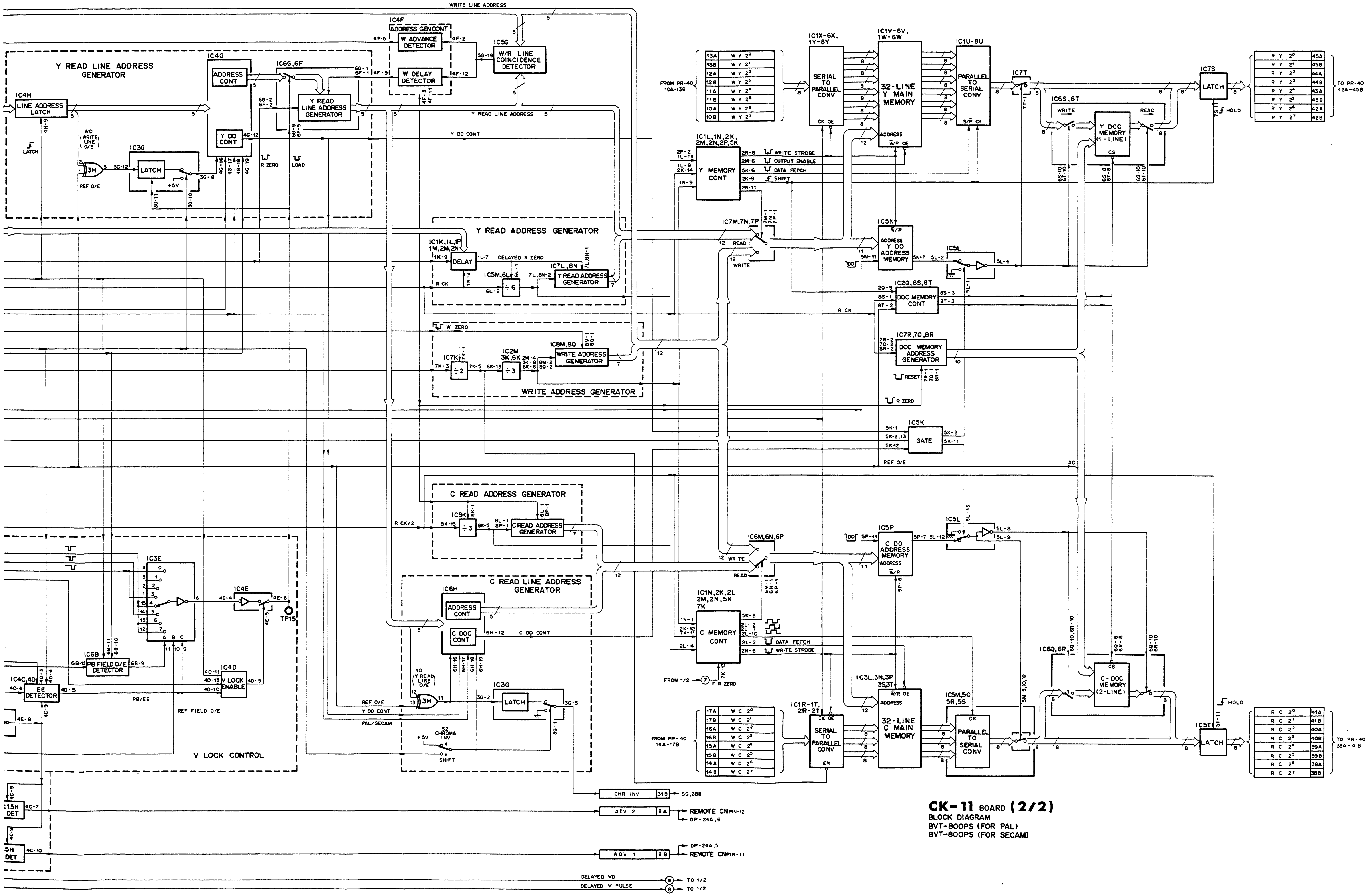
CK-11 BOARD (1/2)
BLOCK DIAGRAM
BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

3 CK-11 BOARD (2/2); CLOCK GEN

W/R Line Address Generator
Advance Detector
EE Detector
Main Memory W/R Address Generator
32-Line Main Memory
DOC Memory



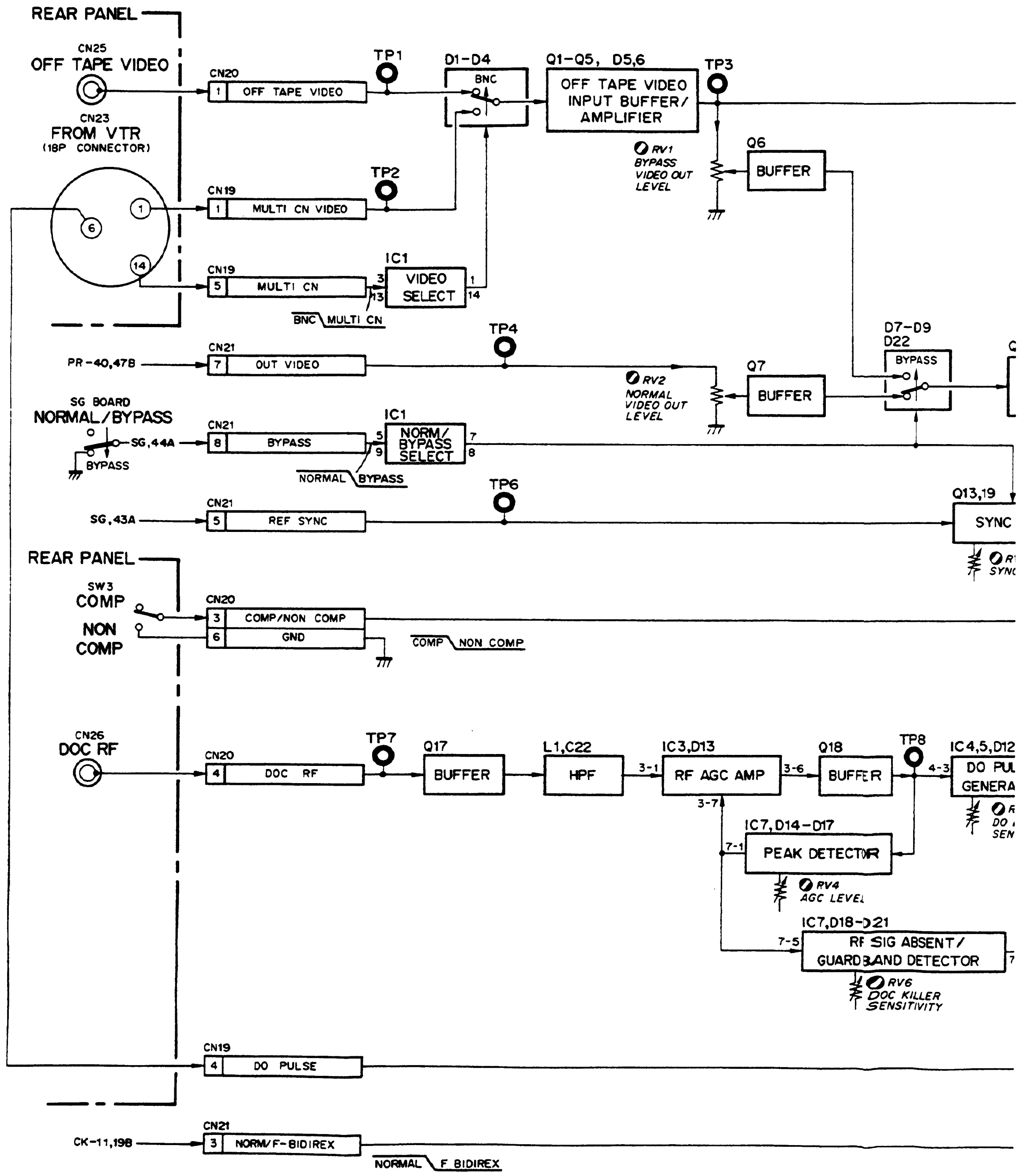
IC3H,5H,5F WRITE LINE ADDRESS GENERATOR
WRITE LINE ADDRESS
IC4F ADDRESS GEN CONT
W ADVANCE DETECTOR
W DELAY DETECTOR
IC5G W/R LINE COINCIDENCE DETECTOR
Y READ LINE ADDRESS GENERATOR
IC4G ADDRESS CONT
Y DO CONT
IC6G,6F
Y READ LINE ADDRESS GENERATOR
IC4H LINE ADDRESS LATCH
IC3G LATCH
3H
REF O/E
R ZERO
LOAD
Y READ LINE ADDRESS
Y DO CONT
IC1X-6X, 1Y-8Y SERIAL TO PARALLEL CONV
FROM PR-40 10A-13B
W Y 2⁰
W Y 2¹
W Y 2²
W Y 2³
W Y 2⁴
W Y 2⁵
W Y 2⁶
W Y 2⁷
IC1L,1N,2K,2M,2N,2P,5K Y MEMORY CONT
WRITE STROBE
OUTPUT ENABLE
DATA FETCH
SHIFT
IC7M,7N,7P
READ
WRITE
Y READ ADDRESS GENERATOR
IC1K,1L,1P,1M,2M,2N
DELAY
DELAYED R ZERO
IC5M,6L ÷6
IC7L,8N Y READ ADDRESS GENERATOR
R CK
W ZERO
IC7K ÷2
IC2M 3K,6K ÷3
IC8M,8Q WRITE ADDRESS GENERATOR
WRITE ADDRESS GENERATOR
C READ ADDRESS GENERATOR
IC8K ÷3
C READ ADDRESS GENERATOR
R CK/2
IC6M,6N,6P
C READ LINE ADDRESS GENERATOR
IC6H ADDRESS CONT
C DOC CONT
C DO CONT
IC3G LATCH
3H
REF O/E
Y DO CONT
PAL/SECAM
S2 CHROMA INV
SHIFT
IC1N,2K,2L,2M,2N,5K,7K C MEMORY CONT
F R ZERO
DATA FETCH
WRITE STROBE
IC1R-1T, 2R-2T SERIAL TO PARALLEL CONV
FROM PR-40 14A-17B
W C 2⁰
W C 2¹
W C 2²
W C 2³
W C 2⁴
W C 2⁵
W C 2⁶
W C 2⁷
SG,25B 26B W O/E
FROM 1/2 12 W ZERO
FROM 1/2 4 R ZERO CONT
FROM 1/2 6 R ZERO
FROM 1/2 13 SELECT V
FROM 1/2 4 R CK
SG,18A 19A COL/BW
FROM 1/2 3 PAL/SECAM
FROM 1/2 14 NORM/DT·BIDIREX
FROM 1/2 15 NORM·DT/BIDIREX
FROM 1/2 10 W CK
FROM 1/2 DO PULSE
FROM 1/2 11 W CK
SG,34A 32A LINE DO
SG,34B 32B REF O/E
FROM 1/2 5 1/2 R CK
SG,37A 34B VD
FROM 1/2 2 REF H
FROM 1/2 17 DIVIDED W CK
FROM 1/2 18 FLD O/E
IC2D,3C,3D WINDOW GEN
IC3E
IC4E
TP15
IC6B PB FIELD O/E DETECTOR
IC4C,4D EE DETECTOR
IC4D V LOCK ENABLE
PB/EE
REF FIELD O/E
IC4E,5A
IC3B LATCH
V LOCK CONTROL
ADV IN/OUT DETECTOR
4E
IC4C 16±1.5H ADV DET
IC3B,4C <14.5H ADV DET
CHR INV 31B SG,28B
ADV 2 8A REMOTE CN PIN-12 DP-24A,6
ADV 1 8B DP-24A,5 REMOTE CN PIN-11
DELAYED VD 9 TO 1/2
DELAYED V PULSE 8 TO 1/2


WRITE LINE ADDRESS
Y READ LINE ADDRESS GENERATOR
IC4H LINE ADDRESS LATCH
IC4G ADDRESS CONT
Y DO CONT
IC3G LATCH
IC6G,6F
Y READ LINE ADDRESS GENERATOR
IC4F ADDRESS GEN CONT
W ADVANCE DETECTOR
W DELAY DETECTOR
IC5G W/R LINE COINCIDENCE DETECTOR
Y READ LINE ADDRESS
Y DO CONT
R ZERO
LOAD
REF O/E
LATCH
Y READ ADDRESS GENERATOR
IC1K,1L,1P 1M,2M,2N DELAY
DELAYED R ZERO
IC5M,6L ÷6
IC7L,8N Y READ ADDRESS GENERATOR
R CK
W ZERO
IC7K ÷2
IC2M 3K,6K ÷3
IC8M,8Q WRITE ADDRESS GENERATOR
WRITE ADDRESS GENERATOR
C READ ADDRESS GENERATOR
R CK/2
IC8K ÷3
C READ ADDRESS GENERATOR
C READ LINE ADDRESS GENERATOR
IC6H ADDRESS CONT
C DOC CONT
C DO CONT
IC3G LATCH
YO (Y READ LINE O/E)
REF O/E
Y DO CONT
PAL/SECAM
S2 CHROMA INV
SHIFT
IC3E
IC4E
TP15
IC6B PB FIELD O/E DETECTOR
IC4D V LOCK ENABLE
IC4C,4D EE DETECTOR
PB/EE
REF FIELD O/E
V LOCK CONTROL
1.5H DET
.5H DET
FROM PR-40 10A-13B
13A W Y 2⁰
13B W Y 2¹
12A W Y 2²
12B W Y 2³
11A W Y 2⁴
11B W Y 2⁵
10A W Y 2⁶
10B W Y 2⁷
IC1X-6X, 1Y-8Y SERIAL TO PARALLEL CONV
IC1V-6V, 1W-6W 32-LINE Y MAIN MEMORY
IC1U-8U PARALLEL TO SERIAL CONV
IC7T
IC7S LATCH
HOLD
IC6S,6T WRITE READ
Y DOC MEMORY (1-LINE)
45A R Y 2⁰
45B R Y 2¹
44A R Y 2²
44B R Y 2³
43A R Y 2⁴
43B R Y 2⁵
42A R Y 2⁶
42B R Y 2⁷
TO PR-40 42A-45B
IC1L,1N,2K, 2M,2N,2P,5K Y MEMORY CONT
WRITE STROBE
OUTPUT ENABLE
DATA FETCH
SHIFT
IC7M,7N,7P READ WRITE
IC5N Y DO ADDRESS MEMORY
IC5L
IC2Q,8S,8T DOC MEMORY CONT
IC7R,7Q,8R DOC MEMORY ADDRESS GENERATOR
RESET
R ZERO
IC5K GATE
REF O/E
IC6M,6N,6P WRITE READ
IC5P C DO ADDRESS MEMORY
IC1N,2K,2L 2M,2N,5K 7K C MEMORY CONT
DATA FETCH
WRITE STROBE
FROM 1/2 7 F R ZERO
FROM PR-40 14A-17B
17A W C 2⁰
17B W C 2¹
16A W C 2²
16B W C 2³
15A W C 2⁴
15B W C 2⁵
14A W C 2⁶
14B W C 2⁷
IC1R-1T, 2R-2T SERIAL TO PARALLEL CONV
IC3L,3N,3P 3S,3T 32-LINE C MAIN MEMORY
IC5M,5Q 5R,5S PARALLEL TO SERIAL CONV
IC6Q,6R C-DOC MEMORY (2-LINE)
IC5T LATCH
HOLD
41A R C 2⁰
41B R C 2¹
40A R C 2²
40B R C 2³
39A R C 2⁴
39B R C 2⁵
38A R C 2⁶
38B R C 2⁷
TO PR-40 38A-41B
CHR INV 31B SG,28B
ADV 2 8A REMOTE CN PIN-12 DP-24A,6
ADV 1 8B DP-24A,5 REMOTE CN PIN-11
DELAYED VD 9 TO 1/2
DELAYED V PULSE 8 TO 1/2

CK-11 BOARD **(2/2)**
BLOCK DIAGRAM
BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

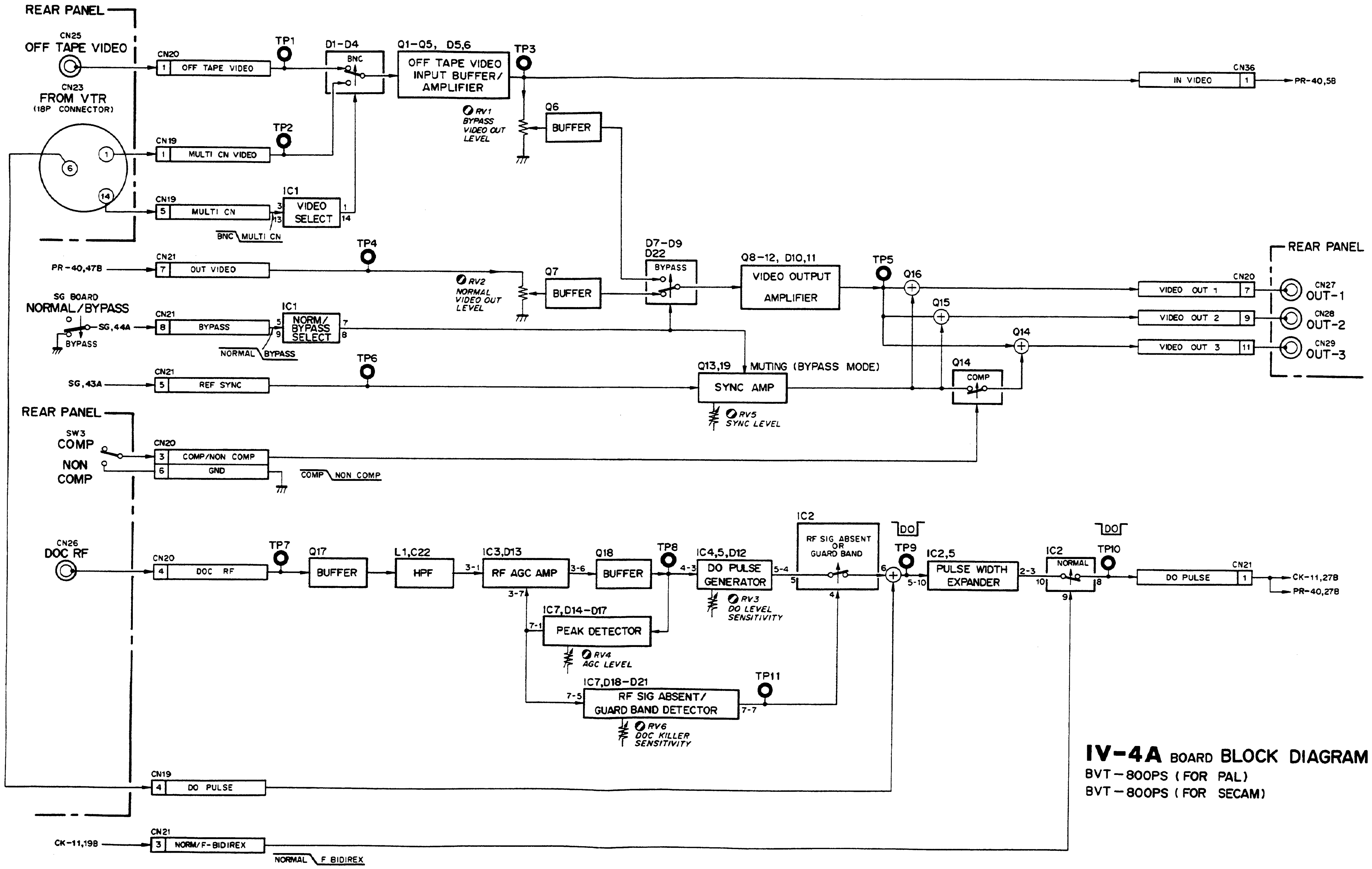
IV-4A BOARD

Video Input Buffer
Video Output Buffer
DO Pulse Generator


REAR PANEL
CN25
OFF TAPE VIDEO
CN23
FROM VTR
(18P CONNECTOR)
1
6
14
CN20
1
OFF TAPE VIDEO
TP1
D1-D4
BNC
Q1-Q5, D5,6
OFF TAPE VIDEO INPUT BUFFER/ AMPLIFIER
TP3
RV1
BYPASS VIDEO OUT LEVEL
Q6
BUFFER
CN19
1
MULTI CN VIDEO
TP2
CN19
5
MULTI CN
IC1
VIDEO SELECT
3
13
1
14
BNC \ MULTI CN
TP4
CN21
7
OUT VIDEO
PR-40,47B
RV2
NORMAL VIDEO OUT LEVEL
Q7
BUFFER
D7-D9
D22
BYPASS
SG BOARD
NORMAL/BYPASS
SG,44A
BYPASS
CN21
8
BYPASS
IC1
NORM/ BYPASS SELECT
5
9
7
8
NORMAL \ BYPASS
TP6
CN21
5
REF SYNC
SG,43A
Q13,19
SYNC
REAR PANEL
SW3
COMP
NON COMP
CN20
3
COMP/NON COMP
6
GND
COMP \ NON COMP
CN26
DOC RF
CN20
4
DOC RF
TP7
Q17
BUFFER
L1,C22
HPF
3-1
IC3,D13
RF AGC AMP
3-6
Q18
BUFFER
TP8
4-3
IC4,5,D12
3-7
IC7,D14-D17
7-1
PEAK DETECTOR
RV4
AGC LEVEL
IC7,D18-D21
7-5
RF SIG ABSENT/ GUARDBAND DETECTOR
RV6
DOC KILLER SENSITIVITY
CN19
4
DO PULSE
CN21
3
NORM/F-BIDIREX
CK-11,19B
NORMAL \ F BIDIREX

IV-4A BOARD

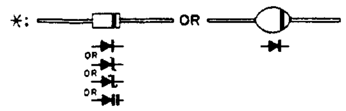
Video Input Buffer
Video Output Buffer
DO Pulse Generator


REAR PANEL
CN25
OFF TAPE VIDEO
CN23
FROM VTR
(18P CONNECTOR)
6
1
14
CN20
1 OFF TAPE VIDEO
TP1
D1-D4
BNC
Q1-Q5, D5,6
OFF TAPE VIDEO INPUT BUFFER/ AMPLIFIER
TP3
RV1 BYPASS VIDEO OUT LEVEL
Q6
BUFFER
CN36
IN VIDEO 1
PR-40,58
CN19
1 MULTI CN VIDEO
TP2
CN19
5 MULTI CN
IC1
VIDEO SELECT
3
13
1
14
BNC MULTI CN
CN21
PR-40,47B
7 OUT VIDEO
TP4
RV2 NORMAL VIDEO OUT LEVEL
Q7
BUFFER
D7-D9
D22
BYPASS
Q8-12, D10,11
VIDEO OUTPUT AMPLIFIER
TP5
Q16
Q15
Q14
REAR PANEL
CN20
VIDEO OUT 1 7
CN27 OUT-1
VIDEO OUT 2 9
CN28 OUT-2
VIDEO OUT 3 11
CN29 OUT-3
SG BOARD
NORMAL/BYPASS
SG,44A
BYPASS
CN21
8 BYPASS
IC1
NORM/ BYPASS SELECT
5
9
7
8
NORMAL BYPASS
TP6
CN21
SG,43A
5 REF SYNC
Q13,19
MUTING (BYPASS MODE)
SYNC AMP
RV5 SYNC LEVEL
Q14
COMP
REAR PANEL
SW3
COMP
NON COMP
CN20
3 COMP/NON COMP
6 GND
COMP NON COMP
CN26
DOC RF
CN20
4 DOC RF
TP7
Q17
BUFFER
L1,C22
HPF
3-1
IC3,D13
RF AGC AMP
3-6
3-7
Q18
BUFFER
TP8
4-3
IC4,5,D12
DO PULSE GENERATOR
5-4
5
RV3 DO LEVEL SENSITIVITY
IC2
RF SIG ABSENT OR GUARD BAND
6
4
DO
TP9
IC2,5
5-10
PULSE WIDTH EXPANDER
2-3
DO
IC2
NORMAL
10
9
8
TP10
CN21
DO PULSE 1
CK-11,27B
PR-40,27B
7-1
IC7,D14-D17
PEAK DETECTOR
RV4 AGC LEVEL
IC7,D18-D21
7-5
RF SIG ABSENT/ GUARD BAND DETECTOR
7-7
TP11
RV6 DOC KILLER SENSITIVITY
CN19
4 DO PULSE
CN21
CK-11,19B
3 NORM/F-BIDIREX
NORMAL F BIDIREX

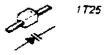
IV-4A BOARD **BLOCK DIAGRAM**
BVT-800PS (FOR PAL)
BVT-800PS (FOR SECAM)

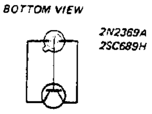
SECTION B
SEMICONDUCTOR PIN ASSIGNMENTS

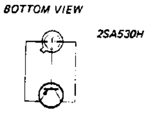
TYPE	PAGE
10E1	*
10E2	*
1N4148N	*
1S1555	*
1S1587	*
1S2076	*
1S2348H	*
1S2473	*
1SS97	*
1SS119	*
1SS133	*
1SS148	*
1SZ52	*
1T25	B-2
2N2369A	B-2
2SA530H	B-2
2SA772	B-2
2SA995	B-2
2SA1005	B-2
2SA1027R	B-2
2SA1048	B-2
2SA1115	B-2
2SA1115R	B-2
2SA1164	B-2
2SA1175	B-2
2SA1175F	B-2
2SB733	B-2
2SB739	B-2
2SB757	B-2
2SC689H	B-2
2SC1128	B-2
2SC1199	B-2
2SC1252	B-3
2SC1311	B-3
2SC1583	B-3
2SC1636	B-3
2SC2009	B-2
2SC2335	B-3
2SC2458	B-3
2SC2603	B-3
2SC2603R	B-3
2SC2625	B-3
2SC2724	B-3
2SC2785	B-3
2SC2785F	B-3
2SD773	B-3
2SD847	B-3
2SK43	B-3
2SK58	B-3
BX365A	B-3
BX381	B-3
CA3054	B-3
CA3102E	B-3
CX773A	B-4
CX852	B-5
CX854	B-5
CX855	B-5
CX7903	B-5
CX20051	B-6
CX20051A	B-6
CX20052	B-6
EQB01-12Z	*
ERC24-04S	*
ERC24-06S	*
ERC24-08S	*
ESA25-02C	B-2
ESA25-02N	B-2
ESAD83	B-2
FT5709M	B-6
HA17458GS	B-6
HA1-4905	B-6
HD10102	B-6
HD10107	B-6
HD10116	B-6
HD10125	B-7
HD10131	B-7
HI1-200-5	B-7
HI1-201	B-7
LD003	B-2
LT9010H	B-2
LT9010N	B-2
M51841P	B-7
MB7051	B-19
MB8147E	B-8
MBM2149L-55	B-8
MC1648P	B-8
MC10116L	B-6
MC10125L	B-7
MC10198L	B-8
MSM5128-12RS	B-8
NJM78M09A	B-9
NJM4558D	B-9
NJM4560D	B-9
QSCH-1754	*
RD3.9E	*
RD4.7E	*
RD5.1E	*
RD6.2E	*
RD9.1E	*
RD12E	*
RD15E	*
RD16E	*
SN74LS00N	B-9
SN74LS02N	B-9
SN74LS04N	B-9
SN7406N	B-9
SN7407N	B-10
SN74LS08N	B-10
SN74LS10N	B-10
SN74LS11N	B-10
SN74LS14N	B-10
SN74LS20N	B-10
SN74LS30N	B-10
SN74LS32N	B-10
SN7438N	B-11
SN74S51N	B-11
SN74LS51N	B-11
SN7474N	B-11
SN74LS74AN	B-11
SN74S86N	B-11
SN74LS86N	B-11
SN74S113N	B-11
SN74LS113N	B-11
SN74LS114AN	B-11
SN74LS123N	B-11
SN74S133N	B-12
SN74LS151N	B-12
SN74LS157N	B-12
SN74LS158N	B-12
SN74LS161AN	B-12
SN74163N	B-12
SN74LS163AN	B-12
SN74LS164N	B-13
SN74LS166AN	B-13
SN74LS174N	B-13
SN74S175N	B-13
SN74LS175N	B-13
SN74LS191N	B-14
SN74221N	B-14
SN74LS221N	B-14
SN74LS240N	B-14
SN74265N	B-14
SN74LS273N	B-14
SN74LS365AN	B-15
SN74LS367AN	B-15
SN74LS374N	B-15
SN74LS377N	B-15
SN74LS393N	B-15
SN74LS399N	B-15
SN74LS423N	B-16
SN74LS669N	B-16
SN74LS670N	B-16
SN74LS684N	B-16
SN75207BN	B-17
TA7060AP	B-17
TBP28S42N	B-20
TC4012BP	B-17
TC4020BP	B-17
TC4040BP	B-17
TL082CP	B-17
TL084CN	B-17
TL494CN	B-18
TL601CP	B-18
TL607CP	B-18
TL701CP	B-18
TLR124	B-2
U15G	*
US1035	*
UA760HC	B-18
MC1496G	B-18
UPC71A	B-18
UPC319C	B-19
UA324C	B-19
UPC4082C	B-17
UPC4557C	B-19
UPC4558C	B-9
V11L	*



DIODE, TRANSISTOR




BOTTOM VIEW
2N2369A
2SC689H


BOTTOM VIEW
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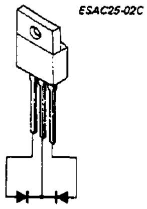

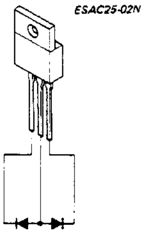

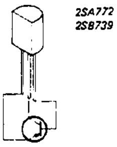
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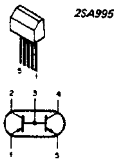
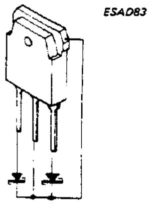
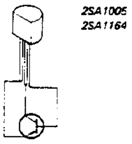
2SB739


2SA995
5
1
2
3
4
1
5

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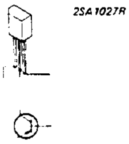
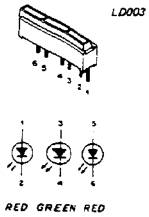
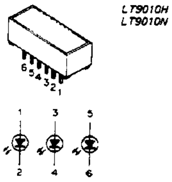



LD003
6
5
4
3
2
1
1
3
5
2
4
6
RED GREEN RED


LT9010H
LT9010N
6
5
4
3
2
1
1
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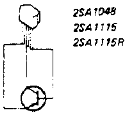
5
2
4
6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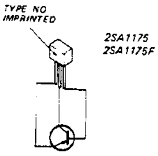
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IMPRINTED
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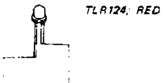

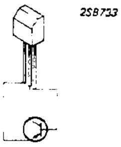

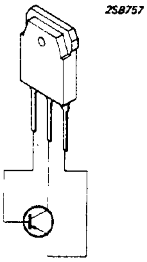

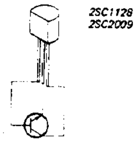
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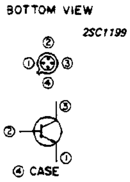
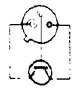
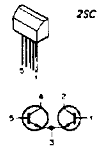
2SC2009


BOTTOM VIEW
2SC1199
②
①
③
④
③
②
①
④ CASE

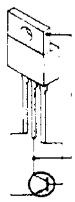
BOTTOM VIEW



2SC1252

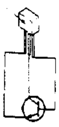


2SC1583

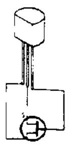


2SC2335

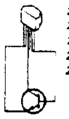
TYPE NO IMPRINTED



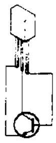
2SC2785
2SC2785F



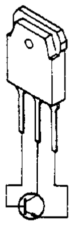
2SK43



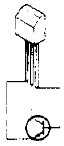
2SC1311
2SC2458
2SC2603
2SC2603R
2SC2724



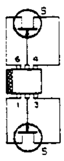
2SC1636



2SC2625
2SD847

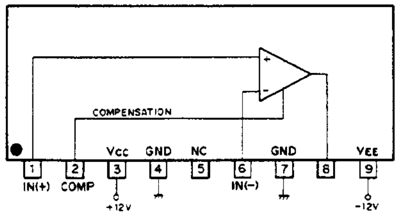


2SD773

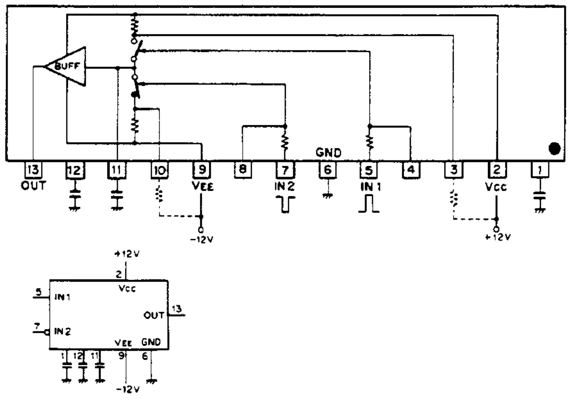


2SK58

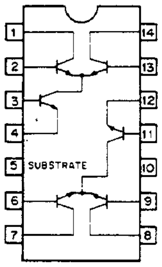
BX365A(SONY)
VIDEO AMPLIFIER
-SIDE VIEW-


+
-
COMPENSATION
Vcc
GND
NC
GND
VEE
1
2
3
4
5
6
7
8
9
IN(+)
COMP
+12V
IN(-)
-12V

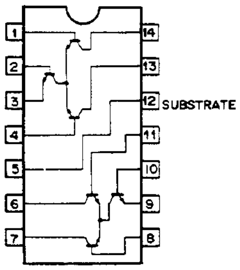
BX381 (SONY)
PHASE COMPARATOR
-SIDE VIEW-


BUFF
GND
13
12
11
10
9
8
7
6
5
4
3
2
1
OUT
VEE
IN 2
IN 1
Vcc
-12V
+12V
+12V
2
Vcc
5
IN1
7
IN2
OUT
13
VEE
GND
1
12
11
9
6
-12V

CA3054 (RCA)
DIFFERENTIAL AMPLIFIER
—TOP VIEW—


1
2
3
4
5
6
7
14
13
12
11
10
9
8
SUBSTRATE

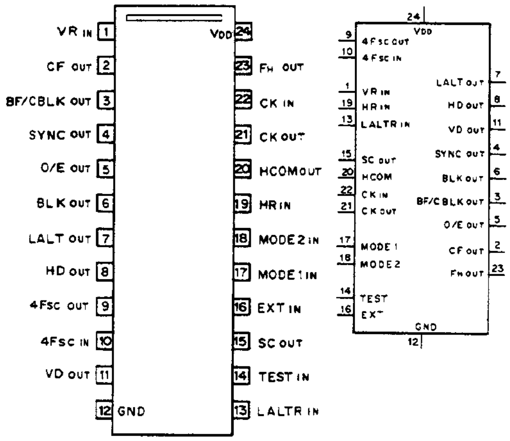
CA3102E(RCA)
HIGH FREQ.DIFFERENTIAL AMPLIFIER
—TOP VIEW—


1
2
3
4
5
6
7
14
13
12
11
10
9
8
SUBSTRATE

CX773A (SONY)

C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL, SECAM)

—TOP VIEW—


VR IN 1
CF OUT 2
BF/CBLK OUT 3
SYNC OUT 4
O/E OUT 5
BLK OUT 6
LALT OUT 7
HD OUT 8
4Fsc OUT 9
4Fsc IN 10
VD OUT 11
12 GND
VDD 24
23 FH OUT
22 CK IN
21 CK OUT
20 HCOM OUT
19 HR IN
18 MODE 2 IN
17 MODE 1 IN
16 EXT IN
15 SC OUT
14 TEST IN
13 LALTR IN

O/E : ODD/EVEN FIELD
CF : COLOR FRAME PULSE
HCOM : H COMPARATOR

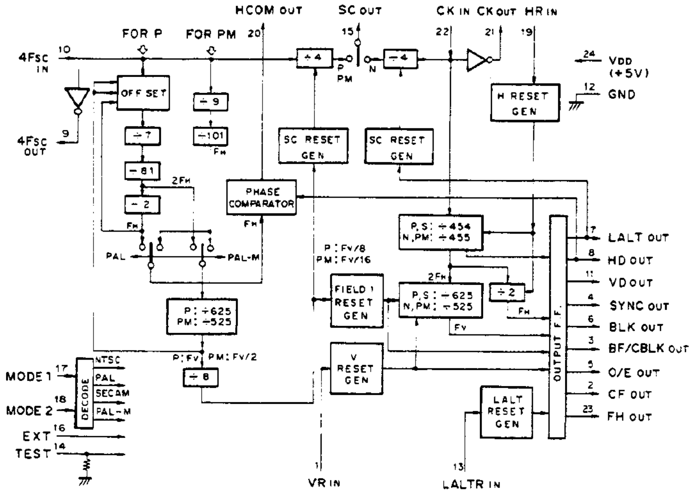
SYSTEM	4Fsc	CLOCK
NTSC	910 FH	910 FH
PAL	1135 FH+2FV	908 FH
PALM	909 FH	910 FH
SECAM	————	908 FH

INPUTS		SYSTEM
MODE 1	MODE 2	
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

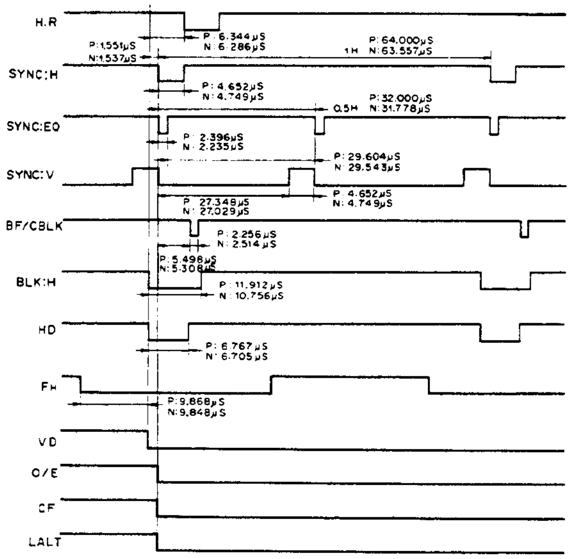
0 ; LOW LEVEL (GND)
1 ; HIGH LEVEL (VDD)

INPUTS		FUNCTION
EXT	TEST	
0	0	INTERNAL
0	1	INVALID
1	0	EXT
1	1	TEST

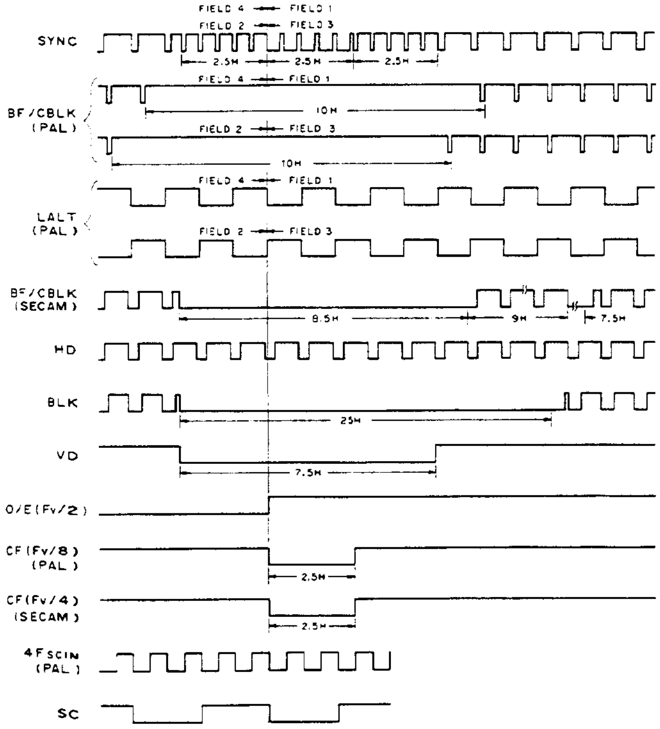
TEST "0" : OPEN (INTERNALLY PULLED DOWN)


HCOM OUT
SC OUT
CK IN
CK OUT
HR IN
FOR P
FOR PM
4Fsc IN
4Fsc OUT
OFF SET
÷9
÷7
÷101
÷81
÷2
2FH
PHASE COMPARATOR
SC RESET GEN
H RESET GEN
VDD (+5V)
GND
P,S: ÷454 N,PM: ÷455
P,S: ÷625 N,PM: ÷525
P: ÷625 PM: ÷525
P: FV/8 PM: FV/16
FIELD 1 RESET GEN
V RESET GEN
LALT RESET GEN
÷8
÷2
OUTPUT F.F.
DECODE
NTSC
PAL
SECAM
PAL-M
MODE 1
MODE 2
EXT
TEST
LALT OUT
HD OUT
VD OUT
SYNC OUT
BLK OUT
BF/CBLK OUT
O/E OUT
CF OUT
FH OUT
VR IN
LALTR IN

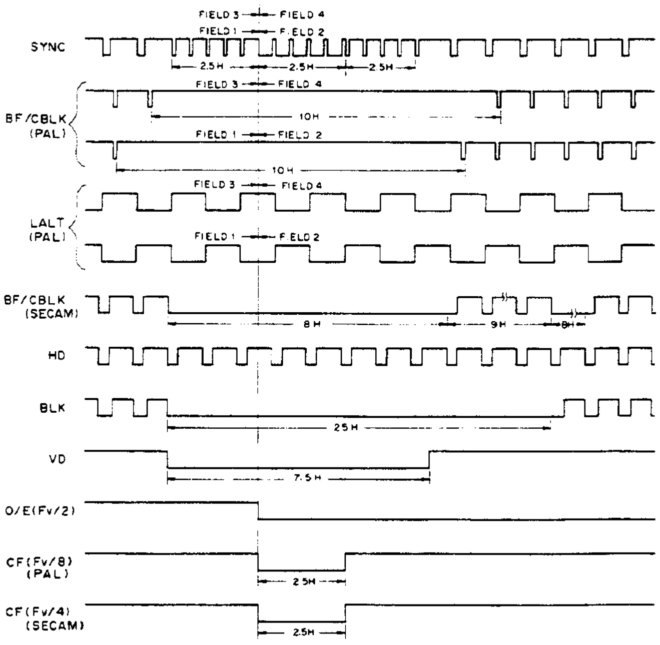
P: PAL, SECAM
N: NTSC, PALM



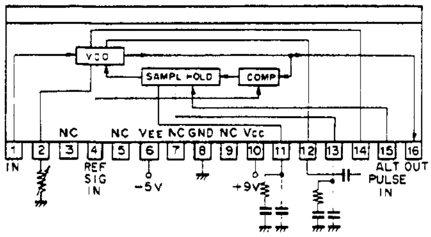
PAL, SECAM (FIELD 1,3)



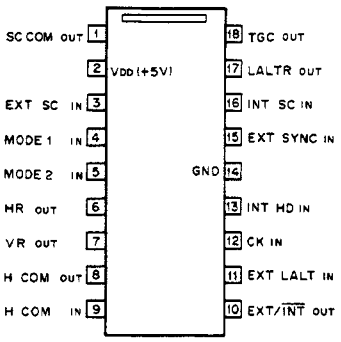
PAL, SECAM (FIELD 4,2)

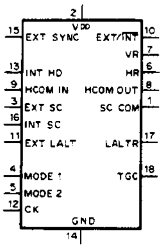


CX852 (SONY)
FREQUENCY MODULATOR
-IMPRINTED SIDE-


VCO
SAMPL HOLD
COMP
NC
NC
VEE
NC
GND
NC
Vcc
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
IN
REF SIG IN
-5V
+9V
ALT OUT
PULSE IN

CX7903 (SONY)
CMOS GENLOCK DRIVER FOR CX773A
— TOP VIEW —

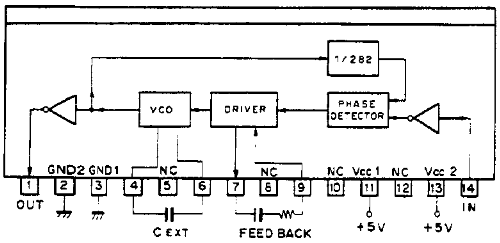

SC COM OUT 1
2 VDD (+5V)
EXT SC IN 3
MODE 1 IN 4
MODE 2 IN 5
HR OUT 6
VR OUT 7
H COM OUT 8
H COM IN 9
18 TGC OUT
17 LALTR OUT
16 INT SC IN
15 EXT SYNC IN
GND 14
13 INT HD IN
12 CK IN
11 EXT LALT IN
10 EXT/$\overline{\text{INT}}$ OUT

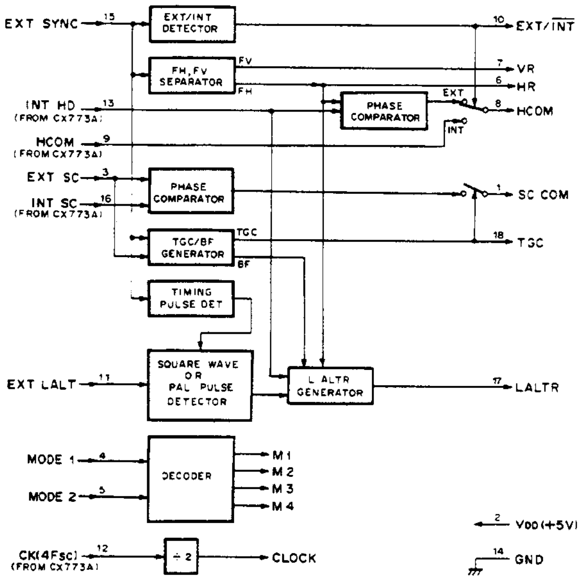

2
VDD
15 EXT SYNC
EXT/$\overline{\text{INT}}$ 10
VR 7
HR 6
13 INT HD
9 HCOM IN
HCOM OUT 8
3 EXT SC
SC COM 1
16 INT SC
11 EXT LALT
LALTR 17
4 MODE 1
TGC 18
5 MODE 2
12 CK
GND
14

INPUTS		EXT LOCK MODE	
MODE 2	MODE 1		
0	0	M1	PAL: VBS
0	1	M2	PALM: VBS
1	0	M3	PAL : VS/SC/LALT
			SECAM: VS/SC/LALT
1	1	M4	NTSC: VBS
			NTSC: VS/SC
			PALM: VS/SC/LALT

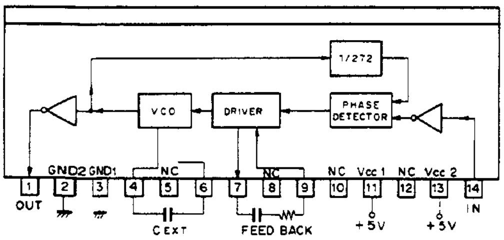
0 ; LOW LEVEL
1 ; HIGH LEVEL

CX854 (SONY)
282-TIME MULTIPLIER
-IMPRINTED SIDE-

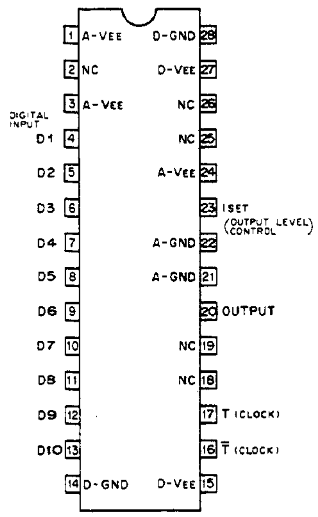

1/282
VCO
DRIVER
PHASE DETECTOR
GND2
GND1
NC
NC
NC
Vcc 1
NC
Vcc 2
1
2
3
4
5
6
7
8
9
10
11
12
13
14
OUT
IN
C EXT
FEED BACK
+5V
+5V

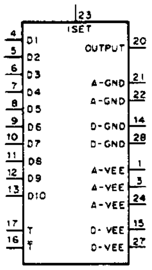

EXT SYNC
15
EXT/INT DETECTOR
10
EXT/$\overline{\text{INT}}$
FH, FV SEPARATOR
FV
FH
7
VR
6
HR
INT HD
13
(FROM CX773A)
PHASE COMPARATOR
EXT
INT
8
HCOM
HCOM
9
(FROM CX773A)
EXT SC
3
INT SC
16
(FROM CX773A)
PHASE COMPARATOR
1
SC COM
TGC/BF GENERATOR
TGC
BF
18
TGC
TIMING PULSE DET
EXT LALT
11
SQUARE WAVE OR PAL PULSE DETECTOR
L ALTR GENERATOR
17
LALTR
MODE 1
4
MODE 2
5
DECODER
M1
M2
M3
M4
2
VDD (+5V)
CK(4Fsc)
12
(FROM CX773A)
÷2
CLOCK
14
GND

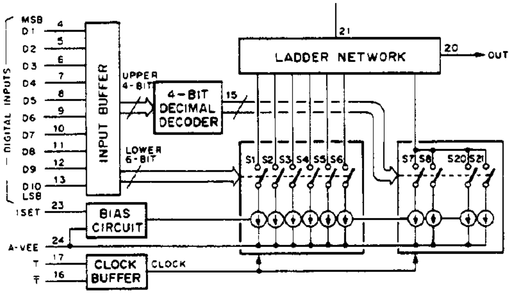
CX855 (SONY)
272-TIME MULTIPLIER
-IMPRINTED SIDE-


1/272
VCO
DRIVER
PHASE DETECTOR
GND2
GND1
NC
NC
NC
Vcc 1
NC
Vcc 2
1
2
3
4
5
6
7
8
9
10
11
12
13
14
OUT
IN
C EXT
FEED BACK
+5V
+5V

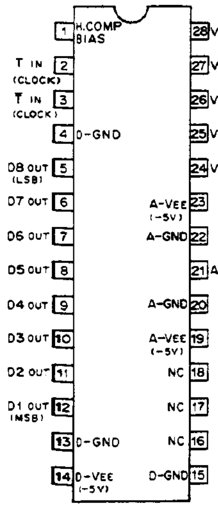
CX20051 (SONY)
CX20051A(SONY)
10-BIT D/A CONVERTER (ECL INPUT)
-TOP VIEW-

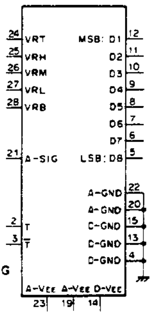

1 A-VEE
2 NC
3 A-VEE
DIGITAL INPUT
D1 4
D2 5
D3 6
D4 7
D5 8
D6 9
D7 10
D8 11
D9 12
D10 13
14 D-GND
D-GND 28
D-VEE 27
NC 26
NC 25
A-VEE 24
23 ISET (OUTPUT LEVEL CONTROL)
A-GND 22
A-GND 21
20 OUTPUT
NC 19
NC 18
17 T (CLOCK)
16 T̄ (CLOCK)
D-VEE 15


23 ISET
4 D1
5 D2
6 D3
7 D4
8 D5
9 D6
10 D7
11 D8
12 D9
13 D10
17 T
16 T̄
OUTPUT 20
A-GND 21
A-GND 22
D-GND 14
D-GND 28
A-VEE 1
A-VEE 3
A-VEE 24
D-VEE 15
D-VEE 27


MSB D1
D2
D3
D4
D5
D6
D7
D8
D9
D10 LSB
DIGITAL INPUTS
INPUT BUFFER
UPPER 4-BIT
4-BIT DECIMAL DECODER
LOWER 6-BIT
ISET
BIAS CIRCUIT
A-VEE
T
T̄
CLOCK BUFFER
CLOCK
A-GND
LADDER NETWORK
OUTPUT
S1 S2 S3 S4 S5 S6
S7 S8 S20 S21

CX20052 (SONY)
8-BIT FEED-FORWARD TYPE A/D CONVERTER (ECL OUTPUT)
-TOP VIEW-

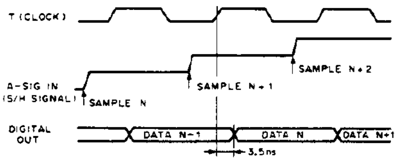

1 H.COMP BIAS
T IN (CLOCK) 2
T̄ IN (CLOCK) 3
4 D-GND
D8 OUT (LSB) 5
D7 OUT 6
D6 OUT 7
D5 OUT 8
D4 OUT 9
D3 OUT 10
D2 OUT 11
D1 OUT (MSB) 12
13 D-GND
14 D-VEE (-5V)
28 VRB IN
27 VRL IN
26 VRM IN
25 VRH IN
24 VRT IN
A-VEE (-5V) 23
A-GND 22
21 A-SIG IN
A-GND 20
A-VEE (-5V) 19
NC 18
NC 17
NC 16
D-GND 15


24 VRT
25 VRH
26 VRM
27 VRL
28 VRB
21 A-SIG
2 T
3 T̄
MSB: D1 12
D2 11
D3 10
D4 9
D5 8
D6 7
D7 6
LSB: D8 5
A-GND 22
A-GND 20
D-GND 15
D-GND 13
D-GND 4
A-VEE A-VEE D-VEE
23 19 14

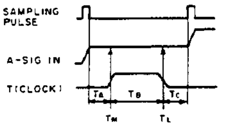
OUTPUT CODING

STEP	RANGE EX. 2.000V FULL SCALE	OUTPUTS MSB LSB
000	0.0000V	11111111
001	-0.0078V	11111110
⋮	⋮	⋮
127	-0.9961V	10000000
128	-1.0039V	01111111
129	-1.0118V	01111110
	⋮	
255	-2.0000V	00000000

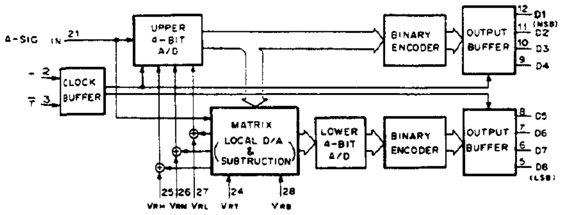
TIMING DIAGRAM


T (CLOCK)
A-SIG IN (S/H SIGNAL)
SAMPLE N
SAMPLE N+1
SAMPLE N+2
DIGITAL OUT
DATA N-1
DATA N
DATA N+1
3.5ns

TIMING CONDITION OF ANALOG SIGNAL

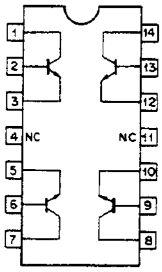

SAMPLING PULSE
A-SIG IN
T(CLOCK)
TA
TB
TC
TH
TL

TA > 2ns
TB > 20ns
TC > 2ns
TH : UPPER 4-BIT A/D ACTION TIMING
TL : LOWER 4-BIT A/D ACTION TIMING

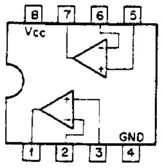

A-SIG IN 21
2 T
3 T̄
CLOCK BUFFER
UPPER 4-BIT A/D
BINARY ENCODER
OUTPUT BUFFER
12 D1 (MSB)
11 D2
10 D3
9 D4
MATRIX LOCAL D/A & SUBTRUCTION
LOWER 4-BIT A/D
BINARY ENCODER
OUTPUT BUFFER
8 D5
7 D6
6 D7
5 D8 (LSB)
25 26 27 24 28
VRH VRM VRL VRT VRB

FT5709M (FUJITSU)
TRANSISTOR ARRAY

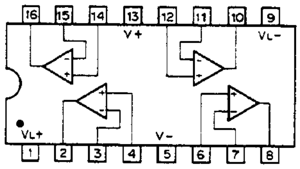
—TOP VIEW—


1
2
3
4 NC
5
6
7
14
13
12
NC 11
10
9
8

HA17458GS (HITACHI)
LM1458N (NSC)
OPERATIONAL AMPLIFIER
— TOP VIEW —


8 7 6 5
Vcc
GND
1 2 3 4

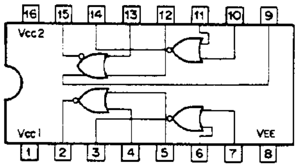
HA1-4905 (HARRIS)
VOLTAGE COMPARATOR
- TOP VIEW -

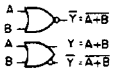

16 15 14 13 12 11 10 9
V+
VL-
VL+
V-
1 2 3 4 5 6 7 8

NOTE: V+ AND V- DETERMINE THE ALLOWABLE INPUT SIGNAL RANGE.

VL+ AND VL- DETERMINE THE OUTPUT SWING.

HD10102 (HITACHI)
MC10102L(MOTOROLA)
ECL 2-INPUT NOR GATE
—TOP VIEW—

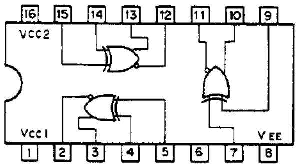

16 15 14 13 12 11 10 9
Vcc2
Vcc1
VEE
1 2 3 4 5 6 7 8

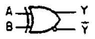

A
B
Ȳ = $\overline{A+B}$
A
B
Y = A+B
Ȳ = $\overline{A+B}$

A	B	Y	Ȳ
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

0; LOW LEVEL
1; HIGH LEVEL

HD10107 (HITACHI)
MC10107L (MOTOROLA)
ECL EXCLUSIVE OR/NOR GATE
- TOP VIEW -


16 15 14 13 12 11 10 9
VCC2
VCC1
VEE
1 2 3 4 5 6 7 8



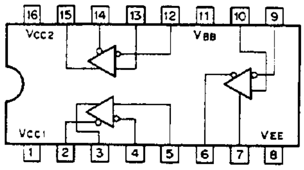
A	B	Y	Ȳ
0	0	0	1
0	1	1	0
1	0	1	0
1	1	0	1

0; LOW LEVEL
1; HIGH LEVEL

HD10116 (HITACHI)
MC10116L (MOTOROLA)

ECL DIFFERENTIAL OR/NOR LINE RECEIVER

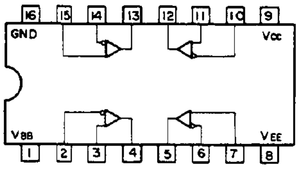
-TOP VIEW-


16 15 14 13 12 11 10 9
Vcc2
VBB
Vcc1
VEE
1 2 3 4 5 6 7 8

HD10125 (HITACHI)
MC10125L (MOTOROLA)

ECL ECL-TO-TTL TRANSLATOR

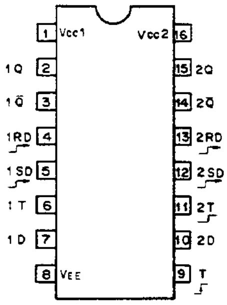
—TOP VIEW—

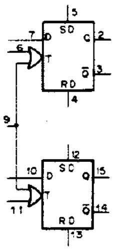

16
15
14
13
12
11
10
9
GND
Vcc
VBB
VEE
1
2
3
4
5
6
7
8

HD10131 (HITACHI)
MC10131L (MOTOROLA)

ECL D-TYPE FLIP FLOP

—TOP VIEW—


Vcc1
Vcc2
1Q
1Q̄
1RD
1SD
1T
1D
VEE
2Q
2Q̄
2RD
2SD
2T
2D
T
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

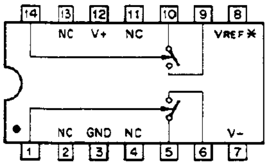

5
SD
7
D
2
Q
6
T
Q̄
3
RD
4
9
12
SC
10
D
15
Q
T
11
RD
Q̄
14
13

INPUTS				OUTPUTS	
SD	RD	T	D	Q_{n+1}	$\overline{Q_{n+1}}$
1	0	X	X	1	0
0	1	X	X	0	1
1	1	X	X	ND	ND
0	0	ʃ	1	1	0
0	0	ʃ	0	0	1
0	0	0	X	Q_n	$\overline{Q_n}$

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
ND; NOT DEFINED

HI1-200-5 (HARRIS)

C-MOS ANALOG SWITCH
—TOP VIEW—


14
13
12
11
10
9
8
NC
V+
NC
VREF*
NC
GND
NC
V-
1
2
3
4
5
6
7

CONT IN	SW
0	—o—o—
1	—o/ o—

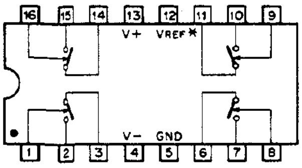
0: LOW LEVEL
1: HIGH LEVEL

*NOTE

INTERFACE	VREF CONNECTION
TTL	OPEN
C-MOS	VDD ≦ 5.5V : OPEN
	VDD > 5.5V : TO VDD

HI1-201 (HARRIS)

C-MOS ANALOG SWITCH
—TOP VIEW—


16
15
14
13
12
11
10
9
V+
VREF*
V-
GND
1
2
3
4
5
6
7
8

CONT IN	SW
0	—o—o—
1	—o/ o—

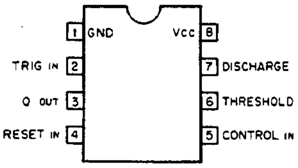
0 ; LOW LEVEL
1 ; HIGH LEVEL

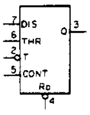
*NOTE

INTERFACE	VREF CONNECTION
TTL	OPEN
C-MOS	VDD ≦ 5.5V ; OPEN
	VDD > 5.5V ; TO VDD

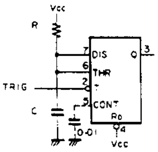
M51841P (MITSUBISHI)
NE555N (SIGNETICS)

TIMER
—TOP VIEW—


1
GND
Vcc
8
TRIG IN
2
7
DISCHARGE
Q OUT
3
6
THRESHOLD
RESET IN
4
5
CONTROL IN

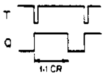

7
DIS
6
THR
2
T
5
CONT
Q
3
RD
4

MONOSTABLE MULTIVIBRATOR

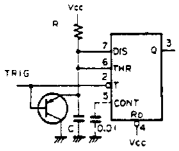

Vcc
R
7
DIS
6
THR
Q
3
TRIG
2
5
CONT
C
0.01
RD
4
Vcc

INPUTS		OUT
RD	T	Q
0	X	0
1	↓	⎍

0 , LOW LEVEL
1 , HIGH LEVEL
X , DON'T CARE

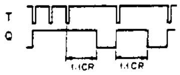


RETRIGGERABLE MONO. MULTIVIBRATOR
(MISSING PULSE DETECTOR)

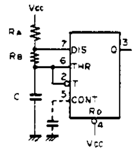

Vcc
R
7
DIS
6
THR
Q
3
TRIG
2
T
5
CONT
C
0.01
RD
4
Vcc

INPUTS		OUT
RD	T	Q
0	X	0
1	↓	⎍

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

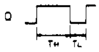


ASTABLE MULTIVIBRATOR


Vcc
RA
RB
7
DIS
6
THR
2
T
5
CONT
Q
3
C
RD
4
Vcc

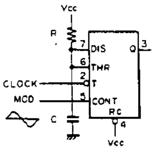
RD	Q
0	0
1	⎍⎍

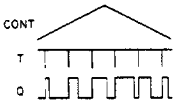
0 ;LOW LEVEL
1 ;HIGH LEVEL



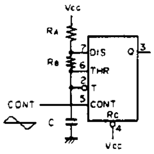
$T_H = 0.693C\ (R_A + R_B)$
$T_L = 0.693C\ R_B$

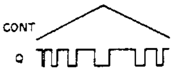
PULSE WIDTH MODULATOR


Vcc
R
7
DIS
6
THR
Q
3
CLOCK
2
T
MOD
5
CONT
C
RC
4
Vcc



VCO
(PULSE POSITION MODULATOR)

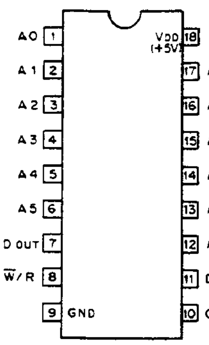

Vcc
RA
RB
7
DIS
6
THR
2
T
Q
3
CONT
5
CONT
C
RC
4
Vcc

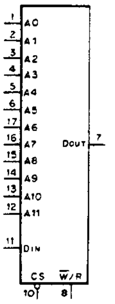


MB8147E (FUJITSU) (ACCESS TIME = 70nS)

N-MOS 4096-BIT STATIC RAM

-TOP VIEW-

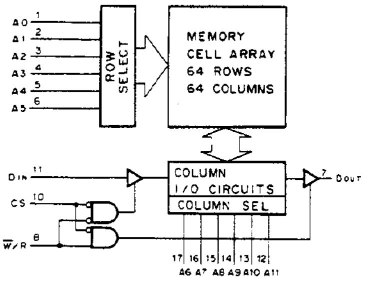

A0 1
A1 2
A2 3
A3 4
A4 5
A5 6
D OUT 7
W/R 8
9 GND
10 CS
11 D IN
12 A11
13 A10
14 A9
15 A8
16 A7
17 A6
VDD (+5V) 18


A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
DIN
DOUT
CS
W/R

CS	$\overline{W}$/R	MODE
0	0	WRITE
0	1	READ
1	X	INHIBIT (OUTPUT;HI-Z)

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

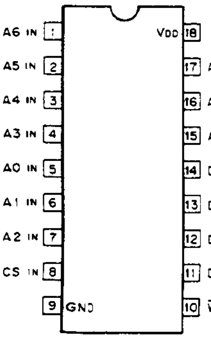
A0 - A11; ADDRESS INPUTS
CS; CHIP SELECT INPUT
$\overline{W}$/R; WRITE/READ ENABLE INPUT

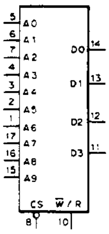

A0
A1
A2
A3
A4
A5
ROW SELECT
MEMORY CELL ARRAY 64 ROWS 64 COLUMNS
COLUMN I/O CIRCUITS
COLUMN SEL
DIN
CS
W/R
DOUT
A6 A7 A8 A9 A10 A11

MBM2149L-55 (FUJITSU)

N-MOS 4096-BIT(1024 x 4) STATIC RAM WITH 3-STATE OUTPUT

—TOP VIEW—


A6 IN 1
A5 IN 2
A4 IN 3
A3 IN 4
A0 IN 5
A1 IN 6
A2 IN 7
CS IN 8
9 GND
10 W/R IN
11 D3 I/O
12 D2 I/O
13 D1 I/O
14 D0 I/O
15 A9 IN
16 A8 IN
17 A7 IN
VDD 18

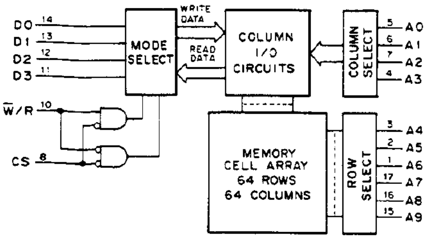

A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
D0
D1
D2
D3
CS
W/R

FUNCTION TABLE

CS	$\overline{W}$/R	MODE	I/O
0	0	WRITE	INPUT
0	1	READ	OUTPUT
1	X	INHIBIT	HIGH Z

A0 — A9 , ADDRESS INPUTS
CS ; CHIP SELECT INPUT
D0 — D3 ; DATA INPUT/OUTPUT (3-STATE)
$\overline{W}$/R ; WRITE/READ ENABLE INPUT

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HIGH Z ; HIGH IMPEDANCE

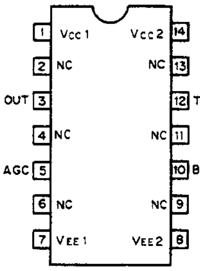

D0
D1
D2
D3
W/R
CS
MODE SELECT
WRITE DATA
READ DATA
COLUMN I/O CIRCUITS
COLUMN SELECT
MEMORY CELL ARRAY 64 ROWS 64 COLUMNS
ROW SELECT
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9

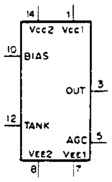
TYPE	-45	-55	-70	L-55	L-70
ADDRESS ACCESS TIME (MAX)	45nS	55nS	70nS	55nS	70nS
CHIP SELECT ACCESS TIME (MAX)	20nS	25nS	30nS	25nS	30nS
Icc (MAX)	180mA	180mA	180mA	125mA	125mA

MC1648P (MOTOROLA)

VOLTAGE CONTROLLED OSCILLATOR

—TOP VIEW—

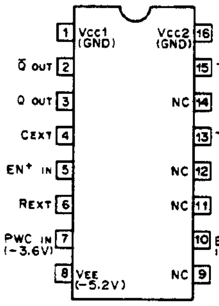

1 Vcc1
2 NC
OUT 3
4 NC
AGC 5
6 NC
7 VEE1
VEE2 8
NC 9
10 BIAS
NC 11
12 TANK
NC 13
Vcc2 14


Vcc2
Vcc1
BIAS
OUT
TANK
AGC
VEE2
VEE1

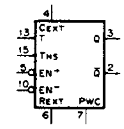
MC10198L (MOTOROLA)

RETRIGGERABLE MONOSTABLE MULTIVIBRATOR

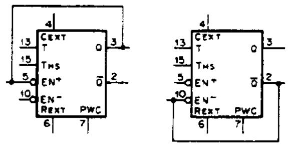
- TOP VIEW -


1 Vcc1 (GND)
Q̄ OUT 2
Q OUT 3
CEXT 4
EN+ IN 5
REXT 6
PWC IN (-3.6V) 7
8 VEE (-5.2V)
NC 9
10 EN- IN
NC 11
NC 12
13 T IN
NC 14
15 THS
Vcc2 (GND) 16

RETRIGGERABLE MMV


CEXT
T
THS
EN+
EN-
REXT
PWC
Q
Q̄

NON-RETRIGGERABLE MMV


CEXT
T
THS
EN+
EN-
REXT
PWC
Q
Q̄

T : CLOCK TRIGGER INPUT
THS : HIGH-SPEED CLOCK TRIGGER INPUT
EN+ : TRIGGER POSITIVE ENABLE
EN- : TRIGGER NEGATIVE ENABLE
PWC : EXTERNAL PULSE WIDTH CONTROL

FUNCTION TABLE

EN+	EN-	TRIG. SLOPE
0	0	↑↓
0	1	↑
1	0	↓
1	1	DISABLE

0; LOW LEVEL
1; HIGH LEVEL

OUTPUT PULSE WIDTH : PWQ

$PWQ = 1.19 \cdot C_{EXT} (R_{EXT} + 284)$

WHERE

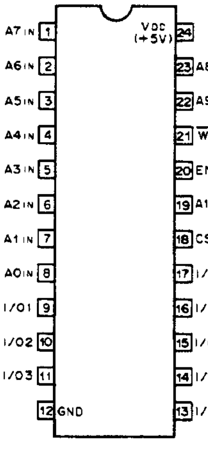
PWQ = SEC
CEXT = FARADS
REXT = OHMS
VEE = -5.2V
PWC = -3.6V

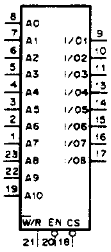
NOTE ; · SELECT REXT RANGING FROM ZERO TO 16K OHMS.
· SELECT CEXT GREATER THAN 20PF.

MSM5128-12RS (OKI) (ACCESS TIME = 120nS)
HM6116LP-2 (HITACHI) (ACCESS TIME = 120 nS)

C-MOS 16384(2048 x 8)-BIT HIGH SPEED STATIC RAM

- TOP VIEW -

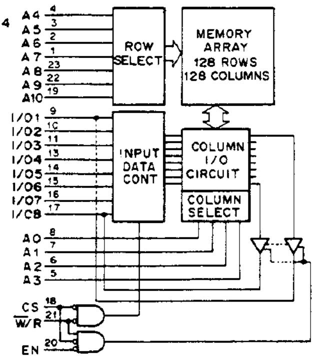

A7 IN 1
A6 IN 2
A5 IN 3
A4 IN 4
A3 IN 5
A2 IN 6
A1 IN 7
A0 IN 8
I/O1 9
I/O2 10
I/O3 11
12 GND
13 I/O4
14 I/O5
15 I/O6
16 I/O7
17 I/O8
18 CS IN
19 A10 IN
20 EN IN
21 W/R IN
22 A9 IN
23 A8 IN
VDC (+5V) 24


A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
I/O1
I/O2
I/O3
I/O4
I/O5
I/O6
I/O7
I/O8
W/R EN CS

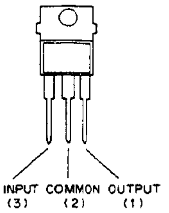
INPUTS			FUNCTION
CS	$\overline{W}$/R	EN	
0	0	X	WRITE
0	1	0	READ
0	1	1	DISABLE (OUTPUT=HI-Z)
1	X	X	DISABLE (OUTPUT=HI-Z)

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

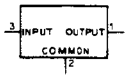
A0 - A10 ; ADDRESS INPUTS
$\overline{W}$/R ; WRITE/READ ENABLE
EN ; OUTPUT ENABLE
CS ; CHIP SELECT
I/O1 - I/O8 ; DATA INPUTS/OUTPUTS


A4
A5
A6
A7
A8
A9
A10
ROW SELECT
MEMORY ARRAY 128 ROWS 128 COLUMNS
I/O1
I/O2
I/O3
I/O4
I/O5
I/O6
I/O7
I/O8
INPUT DATA CONT
COLUMN I/O CIRCUIT
COLUMN SELECT
A0
A1
A2
A3
CS
W/R
EN

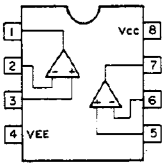
NJM78M□□A (JRC)
VOLTAGE REGULATOR
—FRONT VIEW—


INPUT COMMON OUTPUT
(3) (2) (1)

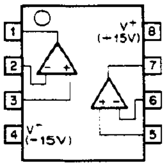
5V	NJM78M05A
6V	NJM78M06A
8V	NJM78M08A
9V	NJM78M09A
12V	NJM78M12A
15V	NJM78M15A
18V	NJM78M18A
20V	NJM78M20A
24V	NJM78M24A


3
INPUT
OUTPUT
1
COMMON
2

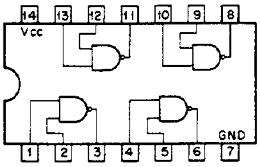
NJM4558D (JRC)
RC4558 (RAYTHEON)
μPC4558C (NEC)
OPERATIONAL AMPLIFIER
-TOP VIEW-

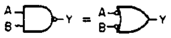

1
2
3
4
VEE
Vcc
8
7
6
5

NJM4560D (JRC)
OPERATIONAL AMPLIFIER
- TOP VIEW -


1
2
3
4
V-
(-15V)
V+
(+15V)
8
7
6
5

SN7400N (TI)
M53200P (MITSUBISHI)
SN74S00N (TI)
SN74LS00N (TI)
HD74LS00P (HITACHI)
SN74ALS00N (TI)
TTL NAND GATE
—TOP VIEW—


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

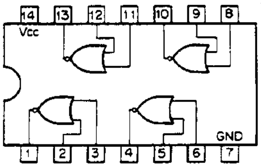


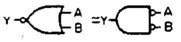
$Y = \overline{A \cdot B} = \bar{A} + \bar{B}$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0: LOW LEVEL
1: HIGH LEVEL

SN7402N (TI)
M53202P (MITSUBISHI)
SN74S02N (TI)
SN74LS02N (TI)
HD74LS02P (HITACHI)
TTL 2-INPUT POSITIVE-NOR GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

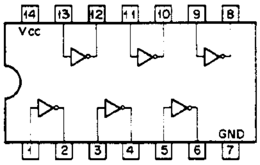


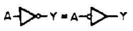
$Y = \overline{A + B} = \bar{A} \cdot \bar{B}$

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0: LOW LEVEL
1: HIGH LEVEL

SN7404N (TI)
M53204P (MITSUBISHI)
SN74L04N (TI)
SN74S04N (TI)
SN74LS04N (TI)
HD74LS04P (HITACHI)
TTL INVERTER
—TOP VIEW—


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

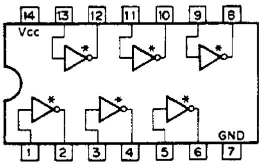


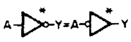
$Y = \bar{A}$

A	Y
0	1
1	0

0: LOW LEVEL
1: HIGH LEVEL

SN7406N (TI)
M53206P (MITSUBISHI)
TTL INVERTER BUFFER/DRIVER
WITH OPEN-COLLECTOR
—TOP VIEW—


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

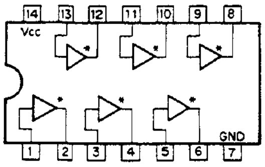


$Y = \bar{A}$

A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL
*; OPEN COLLECTOR

SN7407N (TI)
TTL BUFFER / DRIVER
WITH OPEN - COLLECTOR
— TOP VIEW —

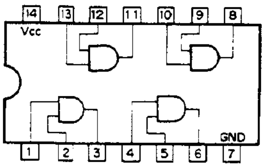

14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

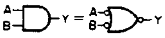
Y = A

A	Y
0	0
1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
✱ ; OPEN COLLECTOR

SN7408N (TI)
SN74S08N (TI)
SN74LS08N (TI)
HD74LS08P (HITACHI)
TTL 2 - INPUT POSITIVE - AND GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

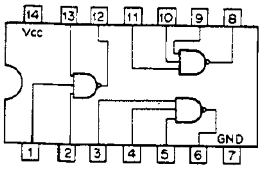


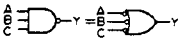
$Y = A \cdot B = \overline{\bar{A} + \bar{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

SN7410N (TI)
SN74L10N (TI)
SN74S10N (TI)
SN74LS10N (TI)
HD74LS10P (HITACHI)
TTL 3-INPUT POSITIVE NAND GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

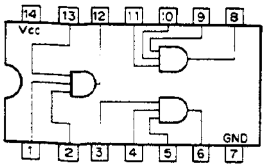


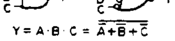
$Y = \overline{ABC} = \bar{A} + \bar{B} + \bar{C}$

A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

SN74H11N (TI)
SN74S11N (TI)
SN74LS11N (TI)
TTL 3 - INPUT POSITIVE - AND GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

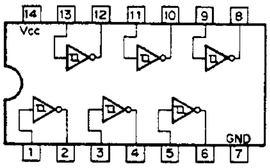


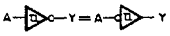
$Y = A \cdot B \cdot C = \overline{\bar{A} + \bar{B} + \bar{C}}$

A	B	C	Y
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1

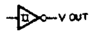
0;LOW LEVEL
1;HIGH LEVEL

SN7414N (TI)
SN74LS14N (TI)
TTL SCHMITT TRIGGER INVERTER
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

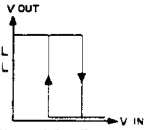


$Y = \bar{A}$



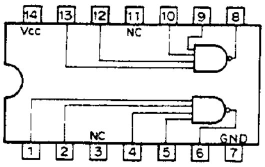
A	Y
0	1
1	0

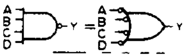
0;LOW LEVEL
1;HIGH LEVEL



SN7414N-----0.9 1.7V
SN74LS14N---0.8 1.6V

SN7420N (TI)
SN74S20N (TI)
SN74LS20N (TI)
TTL 4-INPUT POSITIVE NAND GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
NC
NC
GND
1
2
3
4
5
6
7

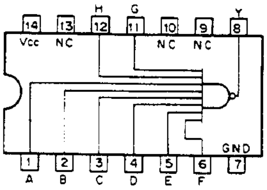

A
B
C
D
Y
=
A
B
C
D
Y

$Y = \overline{A \cdot B \cdot C \cdot D} = \bar{A} + \bar{B} + \bar{C} + \bar{D}$

A	B	C	D	Y
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
⋮	⋮	⋮	⋮	⋮
1	1	0	1	1
1	1	1	0	1
1	1	1	1	0

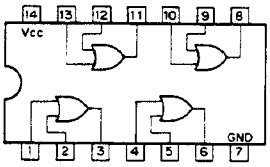
0;LOW LEVEL
1;HIGH LEVEL

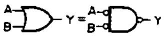
SN7430N (TI)
SN74S30N (TI)
SN74LS30N (TI)
HD74LS30P (HITACHI)
TTL 8-INPUT NAND GATE
—TOP VIEW—


H
G
Y
14
13
12
11
10
9
8
Vcc
NC
NC
NC
GND
1
2
3
4
5
6
7
A
B
C
D
E
F

$Y = \overline{A \cdot B \cdot C \cdot D \cdot E \cdot F \cdot G \cdot H}$
$= \bar{A} + \bar{B} + \bar{C} + \text{--------} + \bar{H}$

SN 7432N (TI)
SN 74S32N (TI)
SN 74LS32N (TI)
HD 74LS32P (HITACHI)
MB74LS32 (FUJITSU)
M74LS32P (MITSUBISHI)
TTL 2 - INPUT POSITIVE - OR GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

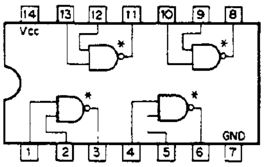


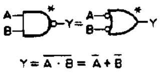
$Y = A + B = \overline{\bar{A} \cdot \bar{B}}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0;LOW LEVEL
1;HIGH LEVEL

SN7438N (TI)
SN74S38N (TI)
SN74LS38N (TI)
TTL 2-INPUT POSITIVE-NAND GATE BUFFER
WITH OPEN-COLLECTOR
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
*
GND
1
2
3
4
5
6
7



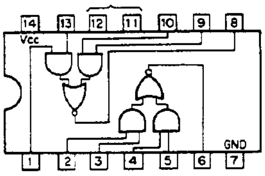
$Y=\overline{A\cdot B}=\overline{A}+\overline{B}$

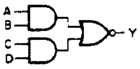
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL
✱ ; OPEN COLLECTOR

SN7451N (TI)
SN74H51N (TI)
SN74S51N (TI)
TTL 2-WIDE 2-INPUT AND-OR-INVERT GATE
— TOP VIEW —

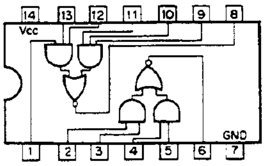
MAKE NO EXTERNAL CONNECTION

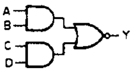

14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7



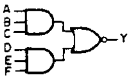
$Y=\overline{A\cdot B+C\cdot D}$

SN74LS51N (TI)
SN74L51N (TI)
TTL 2-WIDE 2-INPUT / 3-INPUT AND-OR-INVERT GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7



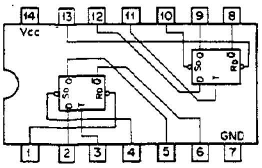
$Y=\overline{A\cdot B+C\cdot D}$



$Y=\overline{A\cdot B\cdot C+D\cdot E\cdot F}$

SN7474N (TI)
M53274P (MITSUBISHI)
SN74H74N (TI)
SN74L74N (TI)
SN74S74N (TI)
SN74LS74AN (TI)
HD74LS74P (HITACHI)

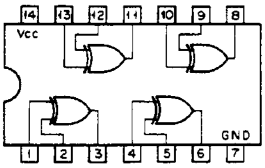
TTL D-TYPE FLIP FLOP WITH DIRECT SET/ RESET
—TOP VIEW—

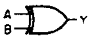

14
13
12
11
10
9
8
Vcc
SD
Q
RD
$\overline{Q}$
D
T
GND
1
2
3
4
5
6
7

INPUTS				OUTPUTS	
SD	RD	T	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1*	1*
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	0	X	Qn	$\overline{Qn}$

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE
1*;NONSTABLE

SN7486N (TI)
SN74S86N (TI)
SN74LS86N (TI)
HD74LS86P (HITACHI)
TTL EXCLUSIVE OR GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7

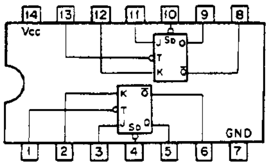


$Y=\overline{A}\cdot B+A\cdot\overline{B}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0;LOW LEVEL
1;HIGH LEVEL

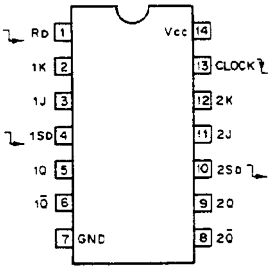
SN74S113N (TI)
SN74LS113N (TI)
SN74LS113AN (TI)
TTL J-K FILP FLOP WITH DIRECT SET
—TOP VIEW—

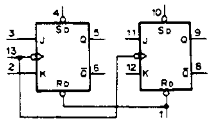

14
13
12
11
10
9
8
Vcc
J
SD
Q
T
K
$\overline{Q}$
GND
1
2
3
4
5
6
7

INPUTS				OUTPUTS	
SD	T	J	K	Qn+1	$\overline{Qn+1}$
0	X	X	X	1	0
1	↓	0	0	Qn	$\overline{Qn}$
1	↓	0	1	0	1
1	↓	1	0	1	0
1	↓	1	1	$\overline{Qn}$	Qn
1	1	X	X	Qn	$\overline{Qn}$

0; LOW LEVEL X; DON'T CARE
1; HIGH LEVEL

SN74S114N (TI)
SN74LS114AN (TI)
SN74ALS114N (TI)
TTL J-K FLIP-FLOP WITH DIRECT SET/RESET
— TOP VIEW —

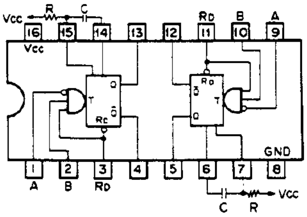

RD 1
1K 2
1J 3
1SD 4
1Q 5
1$\overline{Q}$ 6
7 GND
Vcc 14
13 CLOCK
12 2K
11 2J
10 2SD
9 2Q
8 2$\overline{Q}$


4
SD
3
J
Q
5
13
2
K
RD
$\overline{Q}$
6
10
SD
11
J
Q
9
12
K
RD
$\overline{Q}$
8
1

INPUTS					OUTPUTS	
SD	RD	CK	J	K	Qn+1	$\overline{Qn+1}$
0	1	X	X	X	1	0
1	0	X	X	X	0	1
0	0	X	X	X	1*	1*
1	1	↓	0	0	Qn	$\overline{Qn}$
			0	1	0	1
			1	0	1	0
			1	1	$\overline{Qn}$	Qn
1	1	1	X	X	Qn	$\overline{Qn}$

0; LOW LEVEL X;DON'T CARE
1; HIGH LEVEL ✱;NONSTABLE

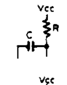
SN74123N (TI)
SN74L123N (TI)
SN74LS123N (TI)
SN74LS123NS(TI)
HD74LS123P (HITACHI)
TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET
—TOP VIEW—


Vcc
R
C
RD
B
A
16
15
14
13
12
11
10
9
Vcc
Q
T
$\overline{Q}$
RC
RD
GND
1
2
3
4
5
6
7
8
A
B
RD
C
R
Vcc

INPUTS			OUTPUTS	
RD	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

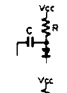
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH



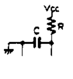
'123 ; $T_W=0.28\left(1+\frac{700}{R}\right)CR$

'L123; $T_W=0.33\left(1+\frac{700}{R}\right)CR$



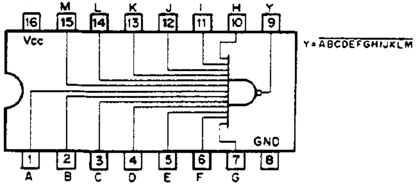
'123 ; $T_W=0.25\left(1+\frac{700}{R}\right)CR$

'L123; $T_W=0.29\left(1+\frac{700}{R}\right)CR$

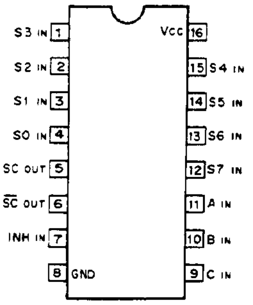


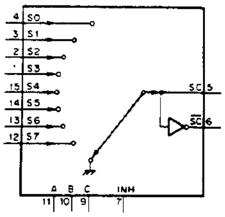
'LS123; $T_W=0.45CR$

SN74S133N (TI)
TTL 13-INPUT NAND GATE
— TOP VIEW —


M L K J I H Y
16 15 14 13 12 11 10 9
Vcc
Y = $\overline{ABCDEFGHIJKLM}$
GND
1 2 3 4 5 6 7 8
A B C D E F G

SN74151AN (TI)
SN74S151N (TI)
SN74LS151N (TI)
TTL 8-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

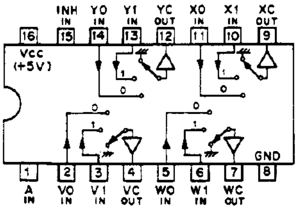

S3 IN 1
S2 IN 2
S1 IN 3
S0 IN 4
SC OUT 5
$\overline{SC}$ OUT 6
INH IN 7
8 GND
Vcc 16
15 S4 IN
14 S5 IN
13 S6 IN
12 S7 IN
11 A IN
10 B IN
9 C IN

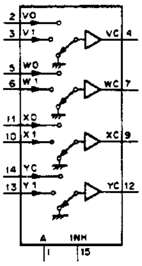

4 S0
3 S1
2 S2
1 S3
15 S4
14 S5
13 S6
12 S7
SC 5
$\overline{SC}$ 6
A B C INH
11 10 9 7

CONTROL INPUTS				ON CHANNEL
INH	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	GND

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74S157N (TI)
TTL 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

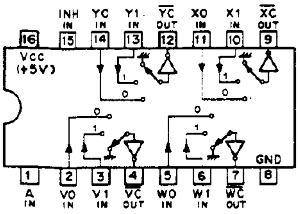

INH IN
Y0 IN
Y1 IN
YC OUT
X0 IN
X1 IN
XC OUT
16 15 14 13 12 11 10 9
Vcc (+5V)
GND
1 2 3 4 5 6 7 8
A IN
V0 IN
V1 IN
VC OUT
W0 IN
W1 IN
WC OUT

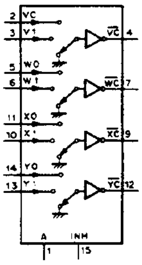

2 V0
3 V1
VC 4
5 W0
6 W1
WC 7
11 X0
10 X1
XC 9
14 Y0
13 Y1
YC 12
A INH
1 15

CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	GND

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74LS158N (TI)
SN74S158N (TI)
TTL 2-LINE-TO-1-LINE INVERTED DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

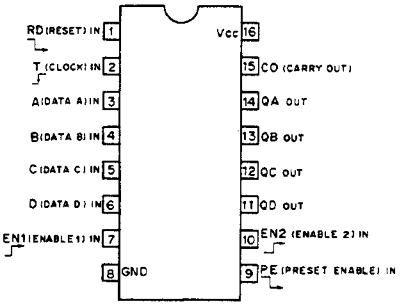

INH IN
YC IN
Y1 IN
$\overline{YC}$ OUT
X0 IN
X1 IN
$\overline{XC}$ OUT
16 15 14 13 12 11 10 9
Vcc (+5V)
GND
1 2 3 4 5 6 7 8
A IN
V0 IN
V1 IN
$\overline{VC}$ OUT
W0 IN
W1 IN
$\overline{WC}$ OUT

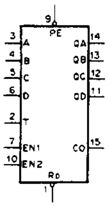

2 VC
3 V1
$\overline{VC}$ 4
5 W0
6 W1
$\overline{WC}$ 7
11 X0
10 X1
$\overline{XC}$ 9
14 Y0
13 Y1
$\overline{YC}$ 12
A INH
1 15

CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	GND

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74161N (TI)
SN74LS161AN (TI)
HD74LS161P (HITACHI)
TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER
— TOP VIEW —


$\overline{RD}$ (RESET) IN 1
T (CLOCK) IN 2
A (DATA A) IN 3
B (DATA B) IN 4
C (DATA C) IN 5
D (DATA D) IN 6
EN1 (ENABLE 1) IN 7
8 GND
Vcc 16
15 CO (CARRY OUT)
14 QA OUT
13 QB OUT
12 QC OUT
11 QD OUT
10 EN2 (ENABLE 2) IN
9 $\overline{PE}$ (PRESET ENABLE) IN


9 PE
3 A
4 B
5 C
6 D
2 T
7 EN1
10 EN2
RD
1
QA 14
QB 13
QC 12
QD 11
CO 15

MODE SELECTION

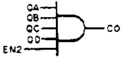
CONTROL INPUTS				MODE
RD	PE	EN1	EN2	
0	X	X	X	RESET (ASYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

COUNT SEQUENCE

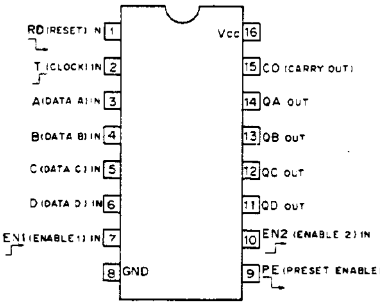
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

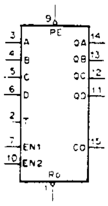
CARRY OUTPUT "CO"


QA
QB
QC
QD
EN2
CO

CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

SN74163N (TI)
SN74S163N (TI)
SN74LS163AN (TI)
HD74LS163P (HITACHI)
TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER
— TOP VIEW —


$\overline{RD}$ (RESET) IN 1
T (CLOCK) IN 2
A (DATA A) IN 3
B (DATA B) IN 4
C (DATA C) IN 5
D (DATA D) IN 6
EN1 (ENABLE 1) IN 7
8 GND
Vcc 16
15 CO (CARRY OUT)
14 QA OUT
13 QB OUT
12 QC OUT
11 QD OUT
10 EN2 (ENABLE 2) IN
9 $\overline{PE}$ (PRESET ENABLE) IN


9 PE
3 A
4 B
5 C
6 D
2 T
7 EN1
10 EN2
RD
1
QA 14
QB 13
QC 12
QD 11
CO 15

MODE SELECTION

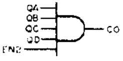
CONTROL INPUTS				MODE
RD	PE	EN1	EN2	
0	X	X	X	RESET (SYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

COUNT SEQUENCE

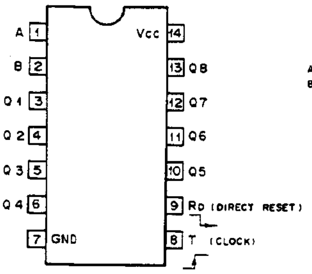
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

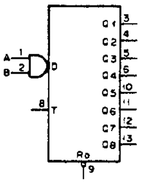
CARRY OUTPUT "CO"


QA
QB
QC
QD
EN2
CO

CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

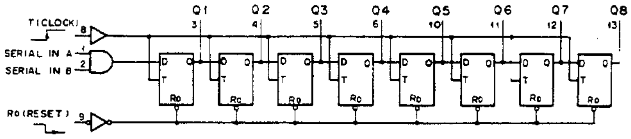
SN74164N (TI)
SN74L164N (TI)
SN74LS164N (TI)
HD74LS164P (HITACHI)
TTL 8-BIT PARALLEL-OUT SERIAL SHIFT REGISTER
—TOP VIEW—


A 1
B 2
Q1 3
Q2 4
Q3 5
Q4 6
7 GND
Vcc 14
13 Q8
12 Q7
11 Q6
10 Q5
9 RD (DIRECT RESET)
8 T (CLOCK)

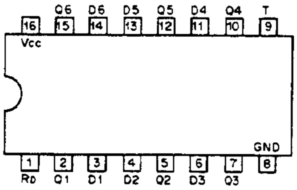

A 1
B 2
D
8 T
Q1 3
Q2 4
Q3 5
Q4 6
Q5 10
Q6 11
Q7 12
Q8 13
RD 9

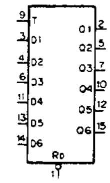
INPUTS				OUTPUTS			
RD	T	A	B	Q1	Q2	----	Q8
0	X	X	X	0	0	0	0
1	0	X	X	Q1o	Q2o	----	Q8o
1	↑	1	1	1	Q1n	----	Q7n
1	↑	0	X	0	Q1n	----	Q7n
1	↑	X	0	0	Q1n	----	Q7n

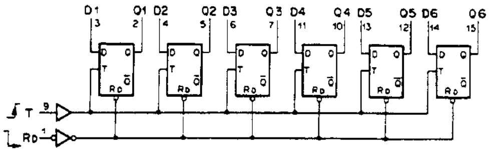
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE


T (CLOCK) 8
SERIAL IN A 1
SERIAL IN B 2
RD (RESET) 9
Q1 3
Q2 4
Q3 5
Q4 6
Q5 10
Q6 11
Q7 12
Q8 13
D
Q
T
RD

SN74174N (TI)
SN74S174N (TI)
SN74LS174N (TI)
HD74LS174P (HITACHI)
MB74LS174 (FUJITSU)
M74LS174P (MITSUBISHI)
TTL D-TYPE FLIP-FLOP WITH DIRECT RESET
—TOP VIEW—


Q6 D6 D5 Q5 D4 Q4 T
16 15 14 13 12 11 10 9
Vcc
GND
1 2 3 4 5 6 7 8
RD Q1 D1 D2 Q2 D3 Q3


9 T
3 D1
4 D2
6 D3
11 D4
13 D5
14 D6
Q1 2
Q2 5
Q3 7
Q4 10
Q5 12
Q6 15
RD 1


D1 3
Q1 2
D2 4
Q2 5
D3 6
Q3 7
D4 11
Q4 10
D5 13
Q5 12
D6 14
Q6 15
T 9
RD 1

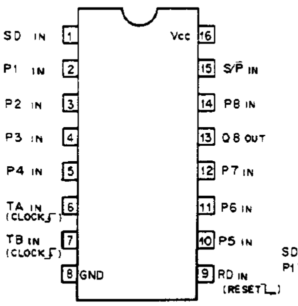
EACH FLIP-FLOP

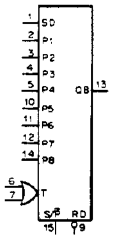
INPUTS			OUT
RD	T	D	Q
0	X	X	0
1	↑	0	0
1	↑	1	1
1	0	X	Q0

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

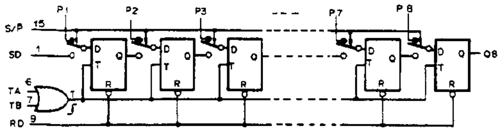
SN74166N (TI)
SN74LS166N (TI)
TTL 8-BIT SHIFT REGISTER

—TOP VIEW—


SD IN 1
P1 IN 2
P2 IN 3
P3 IN 4
P4 IN 5
TA IN (CLOCK) 6
TB IN (CLOCK) 7
8 GND
Vcc 16
15 S/P̄ IN
14 P8 IN
13 Q8 OUT
12 P7 IN
11 P6 IN
10 P5 IN
9 RD IN (RESET)


1 SD
2 P1
3 P2
4 P3
5 P4
10 P5
11 P6
12 P7
14 P8
6
7
T
Q8 13
S/P̄ 15
RD 9

SD; SERIAL DATA INPUT
P1 TO P8; PARALLEL DATA INPUTS

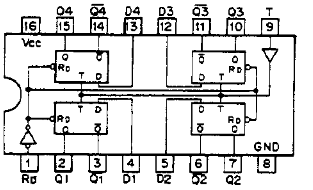

S/P 15
SD 1
TA 6
TB 7
RD 9
P1
P2
P3
P7
P8
D
Q
T
R
Q8

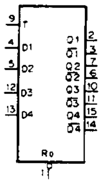
TA	TB	T
0	0	0
X	1	1
1	X	1
1	↑	1
↑	1	1
0	↑	↑
↑	0	↑

INPUTS					OUTPUT
RD	S/P̄	T	SD	P1-P8	Q8
0	X	X	X	X	0
1	X	0	X	X	Q8o
1	0	↑	X	1-8	8
1	1	↑	1	X	Q7n
1	1	↑	0	X	Q7n
1	X	↑	X	X	Q8o

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74175N (TI)
SN74S175N (TI)
SN74LS175N (TI)
HD74LS175P (HITACHI)
TTL D-TYPE FLIP-FLOP WITH CLEAR
—TOP VIEW—


Q4 Q̄4 D4 D3 Q̄3 Q3 T
16 15 14 13 12 11 10 9
Vcc
GND
1 2 3 4 5 6 7 8
RD Q1 Q̄1 D1 D2 Q̄2 Q2

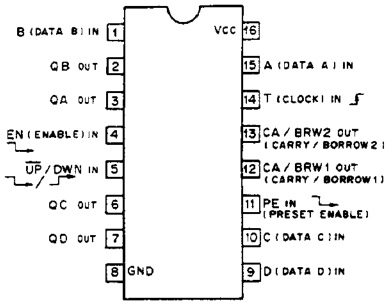

9 T
4 D1
5 D2
12 D3
13 D4
Q1 2
Q̄1 3
Q2 7
Q̄2 6
Q3 10
Q̄3 11
Q4 15
Q̄4 14
RD 1

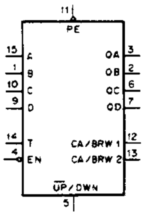
RD	T	D	Q	Q̄
0	X	X	0	1
1	↑	1	1	0
1	↑	0	0	1
1	0	X	Q0	Q̄0

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74191N (TI)
SN74LS191N (TI)

TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY UP/DOWN COUNTER
— TOP VIEW —


B (DATA B) IN 1
QB OUT 2
QA OUT 3
EN (ENABLE) IN 4
UP/DWN IN 5
QC OUT 6
QD OUT 7
8 GND
VCC 16
15 A (DATA A) IN
14 T (CLOCK) IN
13 CA / BRW2 OUT (CARRY / BORROW 2)
12 CA / BRW1 OUT (CARRY / BORROW 1)
11 PE IN (PRESET ENABLE)
10 C (DATA C) IN
9 D (DATA D) IN


11
PE
15 A
1 B
10 C
9 D
14 T
4 EN
QA 3
QB 2
QC 6
QD 7
CA/BRW 1 12
CA/BRW 2 13
UP/DWN
5

MODE SELECTION

CONTROL INPUTS			MODE
PE	EN	$\overline{UP}$/DWN	
0	X	X	PRESET (ASYNCHRONOUS)
1	1	X	NO COUNT
1	0	0	UP COUNT
1	0	1	DOWN COUNT

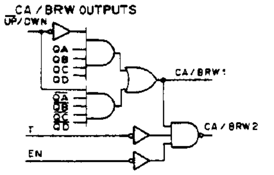
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

COUNT SEQUENCE

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

↓ UP COUNT
↑ DOWN COUNT

CA / BRW OUTPUTS

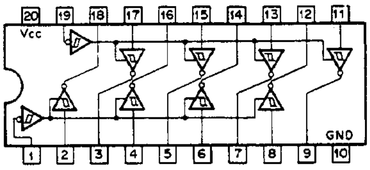

UP/DWN
QA
QB
QC
QD
QA
QB
QC
QD
T
EN
CA / BRW 1
CA / BRW 2

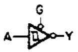
CA/BRW1 OUTPUT IS HIGH WHEN COUNT IS "15" AT UP-COUNT OR WHEN COUNT IS "0" AT DOWN COUNT.

CA/BRW2 OUTPUT IS LOW WHEN BOTH THE CLOCK AND EN INPUTS ARE LOW AND CA/BRW1 OUTPUT IS HIGH.

SN74S240N (TI)
SN74LS240N (TI)
HD74LS240P (HITACHI)

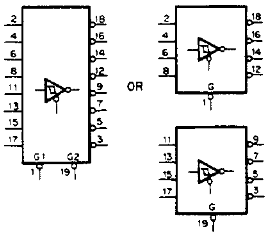
TTL 3-STATE SCHMITT TRIGGER INVERTER/LINE DRIVER
— TOP VIEW —


20 19 18 17 16 15 14 13 12 11
Vcc
GND
1 2 3 4 5 6 7 8 9 10



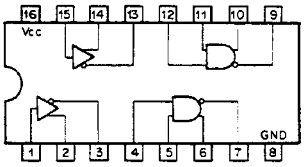
G	A	Y
0	0	1
0	1	0
1	X	HI-Z

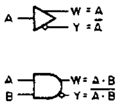
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


2
4
6
8
11
13
15
17
18
16
14
12
9
7
5
3
G1
G2
1
19
OR
G
1
G
19

SN74265N (TI)

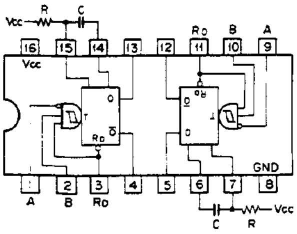
TTL COMPLEMENTARY-OUTPUT ELEMENT
— TOP VIEW —


16 15 14 13 12 11 10 9
Vcc
GND
1 2 3 4 5 6 7 8


A
W = A
Y = $\overline{A}$
A
B
W = A·B
Y = $\overline{A \cdot B}$

SN74221N (TI)
SN74LS221N (TI)
HD74LS221P (HITACHI)

TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT
— TOP VIEW —


R
C
Vcc
RD B A
16 15 14 13 12 11 10 9
Vcc
T
Q
$\overline{Q}$
RD
GND
1 2 3 4 5 6 7 8
A B RD
C R
Vcc

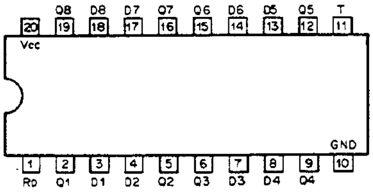
INPUTS			OUTPUTS	
RD	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⎍	⎐
1	↓	1	⎍	⎐
↑	0	1	⎍	⎐

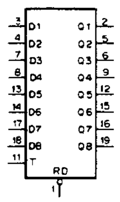
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH ≒ 0.7CR

SN74273N (TI)
SN74LS273N (TI)
M74LS273P (MITSUBISHI)

TTL D-TYPE FLIP-FLOP WITH DIRECT RESET
— TOP VIEW —

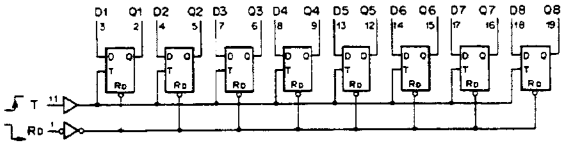

Q8 D8 D7 Q7 Q6 D6 D5 Q5 T
20 19 18 17 16 15 14 13 12 11
Vcc
GND
1 2 3 4 5 6 7 8 9 10
RD Q1 D1 D2 Q2 Q3 D3 D4 Q4


3 D1
4 D2
7 D3
8 D4
13 D5
14 D6
17 D7
18 D8
11 T
Q1 2
Q2 5
Q3 6
Q4 9
Q5 12
Q6 15
Q7 16
Q8 19
RD
1

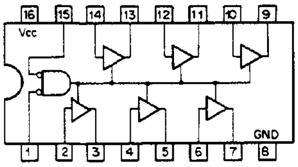
EACH FLIP-FLOP

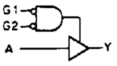
INPUTS			OUT
RD	T	D	Q
0	X	X	0
1	↑	0	0
1	↑	1	1
1	0	X	Q0

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE


D1 Q1 D2 Q2 D3 Q3 D4 Q4 D5 Q5 D6 Q6 D7 Q7 D8 Q8
3 2 4 5 7 6 8 9 13 12 14 15 17 16 18 19
D Q
T
RD
T 11
RD 1

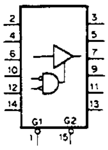
SN74365AN (TI)
SN74LS365AN (TI)
TTL 3-STATE BUS DRIVER
—TOP VIEW—


16
15
14
13
12
11
10
9
Vcc
GND
1
2
3
4
5
6
7
8

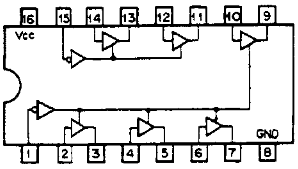


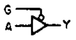
G1	G2	A	Y
0	0	0	0
0	0	1	1
0	1	X	HI-Z
1	0	X	HI-Z
1	1	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DONT CARE
HI-Z; HIGH IMPEDANCE


2
4
6
10
12
14
3
5
7
9
11
13
G1
G2
1
15

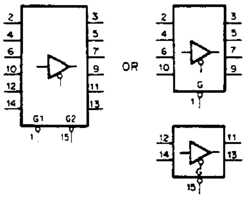
SN74367AN (TI)
SN74LS367AN (TI)
TTL BUS DRIVER WITH 3-STATE OUTPUTS
— TOP VIEW—


16
15
14
13
12
11
10
9
Vcc
GND
1
2
3
4
5
6
7
8

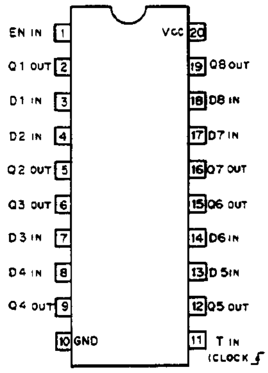


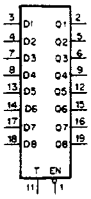
G	A	Y
0	0	0
0	1	1
1	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DONT CARE
HI-Z; HIGH IMPEDANCE


2
4
6
10
12
14
3
5
7
9
11
13
G1
G2
1
15
OR
2
4
6
10
3
5
7
9
G
1
12
14
11
13
15

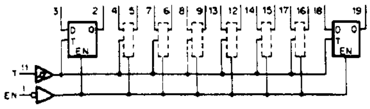
SN74S374N (TI)
SN74LS374N (TI)
TTL 3-STATE OUTPUTS OCTAL D-TYPE FLIP-FLOP
- TOP VIEW-


EN IN 1
Q1 OUT 2
D1 IN 3
D2 IN 4
Q2 OUT 5
Q3 OUT 6
D3 IN 7
D4 IN 8
Q4 OUT 9
10 GND
Vcc 20
19 Q8 OUT
18 D8 IN
17 D7 IN
16 Q7 OUT
15 Q6 OUT
14 D6 IN
13 D5 IN
12 Q5 OUT
11 T IN (CLOCK ʃ)

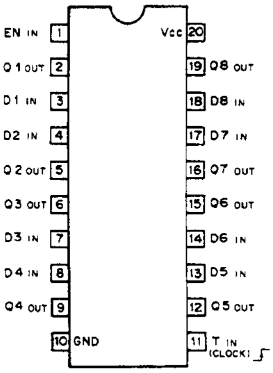

3 D1 Q1 2
4 D2 Q2 5
7 D3 Q3 6
8 D4 Q4 9
13 D5 Q5 12
14 D6 Q6 15
17 D7 Q7 16
18 D8 Q8 19
T EN
11
1

INPUTS			OUT
EN	D	T	Q
0	1	ʃ	1
0	0	ʃ	0
0	X	0	Qo
1	X	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


3
2
4
5
7
6
8
9
13
12
14
15
17
16
18
19
D Q
T
EN
T 11
EN 1

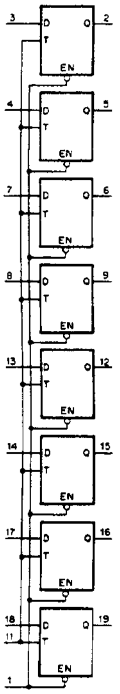
SN74LS377N (TI)
TTL D-TYPE FLIP-FLOP WITH ENABLE
- TOP VIEW-

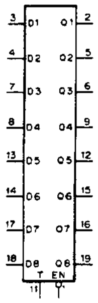

EN IN 1
Q1 OUT 2
D1 IN 3
D2 IN 4
Q2 OUT 5
Q3 OUT 6
D3 IN 7
D4 IN 8
Q4 OUT 9
10 GND
Vcc 20
19 Q8 OUT
18 D8 IN
17 D7 IN
16 Q7 OUT
15 Q6 OUT
14 D6 IN
13 D5 IN
12 Q5 OUT
11 T IN (CLOCK) ʃ

EACH FLIP-FLOP

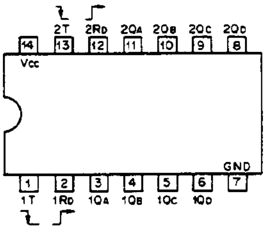
INPUTS			OUT
EN	T	D	Q
1	X	X	Qo
0	ʃ	1	1
0	ʃ	0	0
X	0	X	Qo

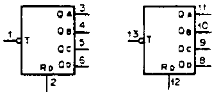
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

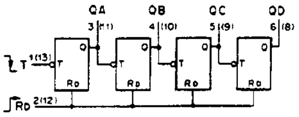

3
2
4
5
7
6
8
9
13
12
14
15
17
16
18
19
11
1
D Q
T
EN


3 D1 Q1 2
4 D2 Q2 5
7 D3 Q3 6
8 D4 Q4 9
13 D5 Q5 12
14 D6 Q6 15
17 D7 Q7 16
18 D8 Q8 19
T EN
11
1

SN74393N (TI)
SN74LS393N (TI)
TTL 4-BIT BINARY COUNTER
— TOP VIEW—


2T
2RD
2QA
2QB
2QC
2QD
14
13
12
11
10
9
8
Vcc
GND
1
2
3
4
5
6
7
1T
1RD
1QA
1QB
1QC
1QD


1
T
QA 3
QB 4
QC 5
RD QD 6
2
13
T
QA 11
QB 10
QC 9
RD QD 8
12


QA
QB
QC
QD
3(11)
4(10)
5(9)
6(8)
T 1(13)
RD 2(12)
T Q
RD

COUNT SEQUENCE

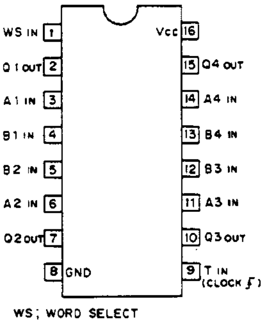
COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

RESET/COUNT FUNCTION

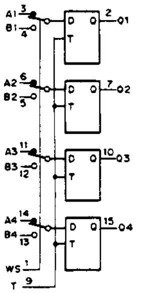
RD	QD	QC	QB	QA
1	0	0	0	0
0	COUNT			

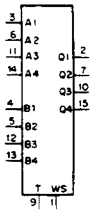
0; LOW LEVEL
1; HIGH LEVEL

SN74LS399N (TI)
TTL QUAD 2-INPUT MULTIPLEXER WITH STORAGE
- TOP VIEW-


WS IN 1
Q1 OUT 2
A1 IN 3
B1 IN 4
B2 IN 5
A2 IN 6
Q2 OUT 7
8 GND
Vcc 16
15 Q4 OUT
14 A4 IN
13 B4 IN
12 B3 IN
11 A3 IN
10 Q3 OUT
9 T IN (CLOCK ʃ)

WS; WORD SELECT


A1 3
B1 4
2 Q1
A2 6
B2 5
7 Q2
A3 11
B3 12
10 Q3
A4 14
B4 13
15 Q4
WS 1
T 9
D Q
T


3 A1
6 A2
11 A3
14 A4
4 B1
5 B2
12 B3
13 B4
Q1 2
Q2 7
Q3 10
Q4 15
T WS
9
1

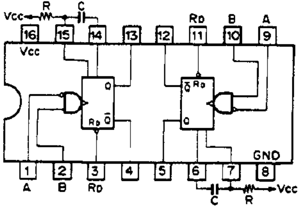
WS	T	Q
0	ʃ	A
1	ʃ	B
X	0	Qo

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74LS423N (TI)

TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET

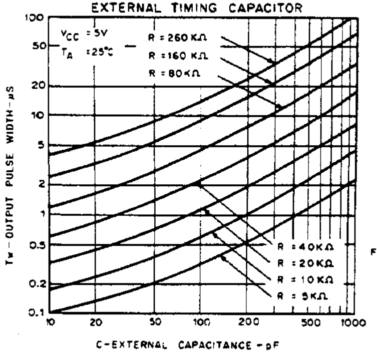
—TOP VIEW—


R
C
Vcc
RD
B
A
16
15
14
13
12
11
10
9
Vcc
GND
1
2
3
4
5
6
7
8
A
B
RD
C
R
Vcc

INPUTS			OUTPUTS	
RD	A	B	Q	$\bar{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⎍	⊔
1	↓	1	⎍	⊔

0:LOW LEVEL
1:HIGH LEVEL
X:DON'T CARE

OUTPUT PULSE WIDTH
vs
EXTERNAL TIMING CAPACITOR

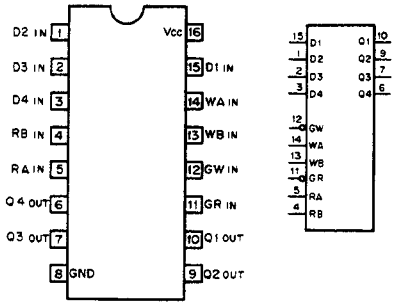


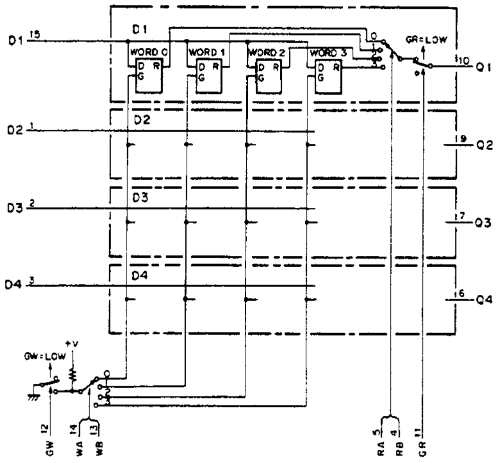
FOR Tw ≥ 100μS OR C ≥ 1000pF,
Tw = 0.38CR

SN74LS670N (TI)

TTL 4-BY-4 REGISTOR FILES WITH 3-STATE OUTPUT

—TOP VIEW—

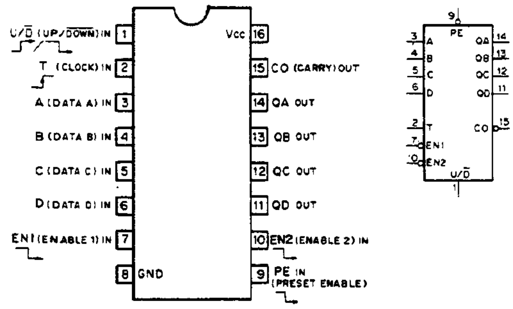

D2 IN 1
D3 IN 2
D4 IN 3
RB IN 4
RA IN 5
Q4 OUT 6
Q3 OUT 7
8 GND
Vcc 16
15 D1 IN
14 WA IN
13 WB IN
12 GW IN
11 GR IN
10 Q1 OUT
9 Q2 OUT
15 D1
1 D2
2 D3
3 D4
12 GW
14 WA
13 WB
11 GR
5 RA
4 RB
Q1 10
Q2 9
Q3 7
Q4 6


D1 15
D1
WORD 0
WORD 1
WORD 2
WORD 3
D R
G
GR=LOW
10 Q1
D2 1
D2
19 Q2
D3 2
D3
17 Q3
D4 3
D4
16 Q4
+V
GW=LOW
12 GW
14 WA
13 WB
5 RA
4 RB
11 GR

SN74LS669N (TI)

TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY UP/DOWN COUNTER

—TOP VIEW—


U/D̄ (UP/DOWN) IN 1
T (CLOCK) IN 2
A (DATA A) IN 3
B (DATA B) IN 4
C (DATA C) IN 5
D (DATA D) IN 6
EN1 (ENABLE 1) IN 7
8 GND
Vcc 16
15 CO (CARRY) OUT
14 QA OUT
13 QB OUT
12 QC OUT
11 QD OUT
10 EN2 (ENABLE 2) IN
9 PE IN (PRESET ENABLE)
9 PE
3 A
4 B
5 C
6 D
2 T
7 EN1
10 EN2
U/D̄ 1
QA 14
QB 13
QC 12
QD 11
CO 15

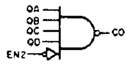
MODE SELECTION

INPUTS				MODE
PE	EN 1	EN2	U/$\bar{D}$	
0	X	X	X	PRESET
X	1	X	X	NO COUNT
X	X	1	X	NO COUNT
1	0	0	1	UP COUNT
1	0	0	0	DOWN COUNT

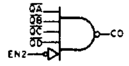
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

CARRY OUTPUTS "CO"

AT U/D̄ = 1


QA
QB
QC
QD
EN2
CO

AT U/D̄ = 0


Q̄A
Q̄B
Q̄C
Q̄D
EN2
CO

COUNT SEQUENCE

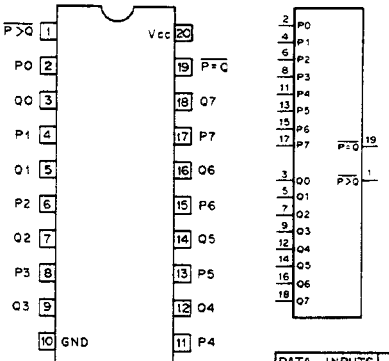
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

UP COUNT ↓
DOWN COUNT ↑

SN74LS684N (TI)

TTL 8-BIT MAGNITUDE COMPARATOR

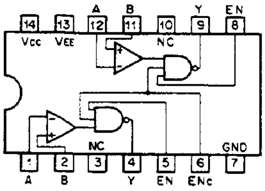
—TOP VIEW—


P̄>̄Q̄ 1
P0 2
Q0 3
P1 4
Q1 5
P2 6
Q2 7
P3 8
Q3 9
10 GND
Vcc 20
19 P̄=̄Q̄
18 Q7
17 P7
16 Q6
15 P6
14 Q5
13 P5
12 Q4
11 P4
2 P0
4 P1
6 P2
8 P3
11 P4
13 P5
15 P6
17 P7
3 Q0
5 Q1
7 Q2
9 Q3
12 Q4
14 Q5
16 Q6
18 Q7
P̄=̄Q̄ 19
P̄>̄Q̄ 1

DATA INPUTS		OUTPUTS	
P0 – P7	Q0 – Q7	$\overline{P=Q}$	$\overline{P>Q}$
P=Q		0	1
P>Q		1	0
P<Q		1	1

1 ; HIGH LEVEL
0 ; LOW LEVEL

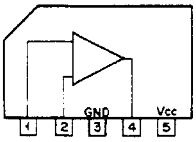
SN75207BN (TI)
BIPOLAR LINE RECEIVER (TTL COMPATIBLE)
— TOP VIEW —


A
B
Y
EN
14
13
12
11
10
9
8
Vcc
VEE
NC
NC
GND
1
2
3
4
5
6
7
A
B
Y
EN
ENc

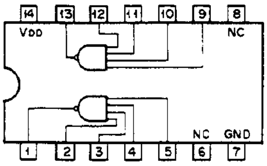
INPUTS			OUT
B − A	EN	ENc	Y
B − A ≧ 10mV	X	0	1
	0	X	1
	1	1	0
|B − A| < 10mV	X	0	1
	0	X	1
	1	1	?
B − A ≦ −10mV	X	X	1

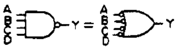
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TA7060AP (TOSHIBA)
LINEAR AMP
— SIDE VIEW —


GND
Vcc
1
2
3
4
5

TC4012BP (TOSHIBA)
C-MOS 4-INPUT NAND GATE
— TOP VIEW —


14
13
12
11
10
9
8
VDD
NC
NC
GND
1
2
3
4
5
6
7

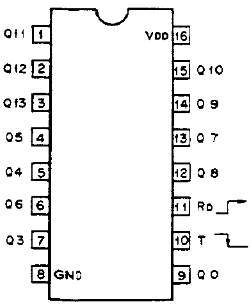

A
B
C
D
Y =
A
B
C
D
Y

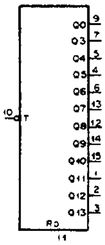
$$Y = \overline{A \cdot B \cdot C \cdot D} = \overline{A} + \overline{B} + \overline{C} + \overline{D}$$

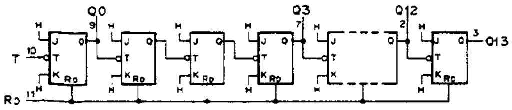
A	B	C	D	Y
X	X	X	0	1
X	X	0	X	1
X	0	X	X	1
0	X	X	X	1
1	1	1	1	0

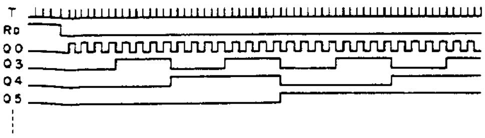
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC4020BP (TOSHIBA)
C-MOS 14-STAGE RIPPLE-CARRY BINARY COUNTER/DRIVER
— TOP VIEW —

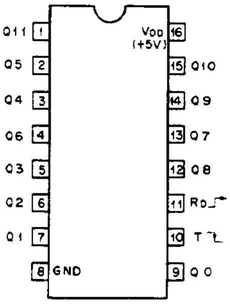

Q11 1
Q12 2
Q13 3
Q5 4
Q4 5
Q6 6
Q3 7
8 GND
VDD 16
15 Q10
14 Q9
13 Q7
12 Q8
11 RD
10 T
9 Q0

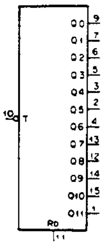

10 T
Q0 9
Q3 7
Q4 5
Q5 4
Q6 6
Q7 13
Q8 12
Q9 14
Q10 15
Q11 1
Q12 2
Q13 3
RD 11

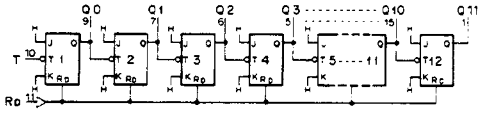

Q0
Q3
Q12
9
7
2
3
Q13
H
J
Q
T
K
RD
T 10
RD 11



TC4040BP (TOSHIBA)
C-MOS 12-STAGE RIPPLE CARRY BINARY COUNTER/DRIVER
— TOP VIEW —


Q11 1
Q5 2
Q4 3
Q6 4
Q3 5
Q2 6
Q1 7
8 GND
VDD (+5V) 16
15 Q10
14 Q9
13 Q7
12 Q8
11 RD
10 T
9 Q0


10 T
Q0 9
Q1 7
Q2 6
Q3 5
Q4 3
Q5 2
Q6 4
Q7 13
Q8 12
Q9 14
Q10 15
Q11 1
RD 11

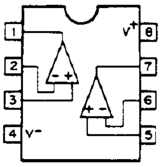

Q0
Q1
Q2
Q3
Q10
Q11
9
7
6
5
15
1
H
J
Q
T 1
T 2
T 3
T 4
T 5 ---- 11
T12
K
RD
T 10
RD 11

COUNT	Q11	Q10	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	1	0
3	0	0	0	0	0	0	0	0	0	0	1	1
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
4095	1	1	1	1	1	1	1	1	1	1	1	1

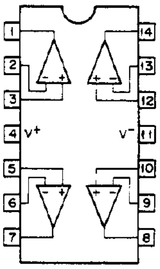
RD	Q11--------Q0
1	ALL LOW
0	COUNT

0; LOW LEVEL
1; HIGH LEVEL

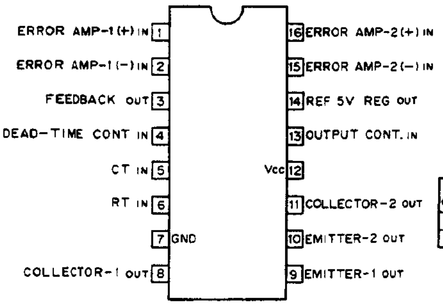
TL082CP (TI)
μPC4082C (NEC)
OPERATIONAL AMPLIFIER
(JFET-INPUT)
- TOP VIEW -

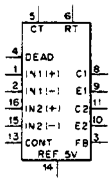

1
2
3
4
V−
V+
8
7
6
5

TL084CN (TI)
OPERATIONAL AMPLIFIER
(JFET-INPUT)
—TOP VIEW—


1
2
3
4
5
6
7
V+
V−
14
13
12
11
10
9
8

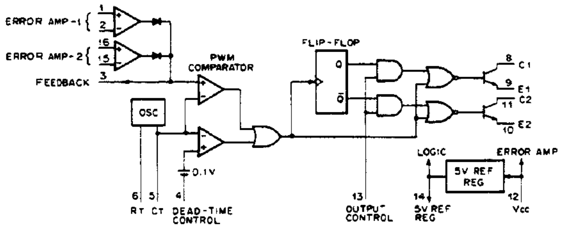
TL494CN (TI)
PWM POWER CONTROL
—TOP VIEW—


ERROR AMP-1(+) IN 1
ERROR AMP-1(−) IN 2
FEEDBACK OUT 3
DEAD-TIME CONT IN 4
CT IN 5
RT IN 6
7 GND
COLLECTOR-1 OUT 8
16 ERROR AMP-2(+) IN
15 ERROR AMP-2(−) IN
14 REF 5V REG OUT
13 OUTPUT CONT. IN
Vcc 12
11 COLLECTOR-2 OUT
10 EMITTER-2 OUT
9 EMITTER-1 OUT


5
6
CT
RT
4 DEAD
1 IN1(+)
2 IN1(−)
16 IN2(+)
15 IN2(−)
13 CONT
C1 8
E1 9
C2 11
E2 10
FB 3
REF 5V
14

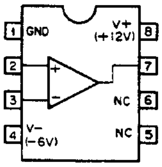
OUTPUT CONTROL	OUTPUT FUNCTION
0	PARALLEL
1	PUSH-PULL

0 ; GROUNDED
1 ; CONNECTED TO PIN14

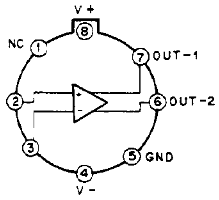

ERROR AMP-1
1
2
ERROR AMP-2
16
15
FEEDBACK
3
PWM COMPARATOR
OSC
0.1V
FLIP-FLOP
Q
Q̄
8 C1
9 E1
11 C2
10 E2
LOGIC
ERROR AMP
5V REF REG
6 RT
5 CT
4 DEAD-TIME CONTROL
13 OUTPUT CONTROL
14 5V REF REG
12 Vcc

TL710CP (TI)
VOLTAGE COMPARATOR

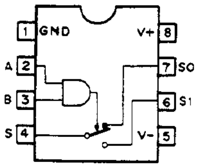
— TOP VIEW —

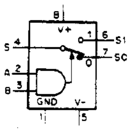

1 GND
2
3
4 V− (−6V)
V+ (+12V) 8
7
NC 6
NC 5

µA760HC (FSC)
HIGH SPEED VOLTAGE COMPARATOR
—TOP VIEW—


V+
8
NC 1
7 OUT-1
2
6 OUT-2
3
4
5 GND
V−

TL601CP (TI)
P-MOS ANALOG SWITCH
—TOP VIEW—

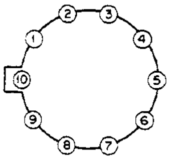

1 GND
A 2
B 3
S 4
V+ 8
7 SO
6 S1
V− 5


8
V+
S 4
1 6 S1
7 SC
0
A 2
B 3
GND
V−
1
5

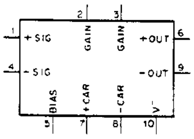
CONT IN		ON CHANNEL
A	B	
0	0	SO
0	1	SO
1	0	SO
1	1	S1

0; LOW LEVEL
1; HIGH LEVEL

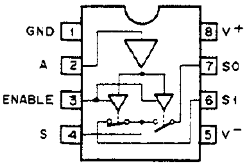
MC1496G (MOTOROLA)
µA796HC (FSC)
DOUBLE-BALANCED MOD/DEMOD.
— BOTTOM VIEW—

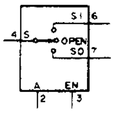

1
2
3
4
5
6
7
8
9
10

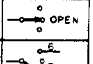
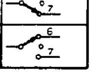
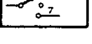
1	+SIGNAL INPUT
2	GAIN ADJUST
3	GAIN ADJUST
4	−SIGNAL INPUT
5	BIAS
6	+OUTPUT
7	+CARRIER INPUT
8	−CARRIER INPUT
9	−OUTPUT
10	V−


1 +SIG
2 GAIN
3 GAIN
+OUT 6
4 −SIG
−OUT 9
5 BIAS
7 +CAR
8 −CAR
10 V−

TL607CP (TI)
MOS ANALOG SWITCH
— TOP VIEW—

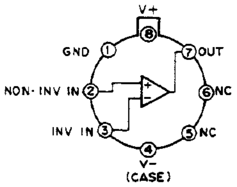

GND 1
A 2
ENABLE 3
S 4
8 V+
7 SO
6 S1
5 V−


S1 6
4 S
OPEN
SO 7
A
EN
2
3

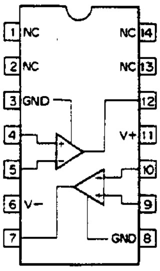
INPUTS		SW
A	EN	
X	0	 OPEN
0	1	 6 7
1	1	 6 7

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

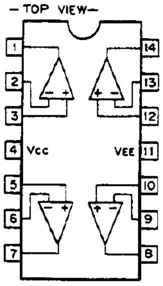
µPC71A (NEC)
HIGH SPEED VOLTAGE COMPARATOR
— TOP VIEW—


V+
8
GND 1
7 OUT
NON-INV IN 2
6 NC
INV IN 3
5 NC
4
V− (CASE)

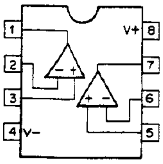
μPC 319C (NEC)
DUAL VOLTAGE COMPARATOR
— TOP VIEW —


1 NC
2 NC
3 GND
4
5
6 V−
7
NC 14
NC 13
12
V+ 11
10
9
GND 8

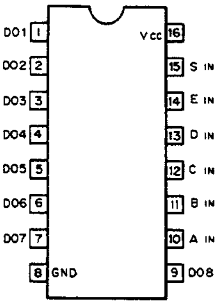
μPC324C (NEC)
QUAD. OP AMPLIFIER
— TOP VIEW —

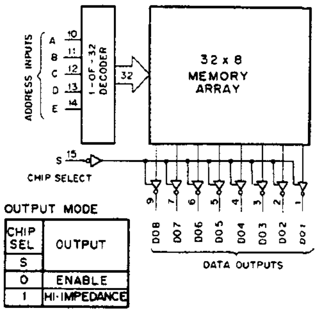

1
2
3
4 Vcc
5
6
7
14
13
12
VEE 11
10
9
8

μPC4557C (NEC)
OPERATIONAL AMPLIFIER
(WIDE BAND, LOW NOISE)
— TOP VIEW —


1
2
3
4 V−
V+ 8
7
6
5

MB7051 (FUJITSU)
256-BIT (32 x 8) PROM (3-STATE OUTPUT)
— TOP VIEW —


DO1 1
DO2 2
DO3 3
DO4 4
DO5 5
DO6 6
DO7 7
8 GND
Vcc 16
15 S IN
14 E IN
13 D IN
12 C IN
11 B IN
10 A IN
9 DO8


ADDRESS INPUTS
A 10
B 11
C 12
D 13
E 14
1-OF-32 DECODER
32
32 x 8 MEMORY ARRAY
S 15
CHIP SELECT
9 7 6 5 4 3 2 1
DO8 DO7 DO6 DO5 DO4 DO3 DO2 DO1
DATA OUTPUTS

OUTPUT MODE

CHIP SEL	OUTPUT
S	
0	ENABLE
1	HI-IMPEDANCE

WORD / ADDRESS TABLE

WORD	ADDRESS INPUTS				
	E	D	C	B	A
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
⋮	⋮	⋮	⋮	⋮	⋮
29	1	1	1	0	1
30	1	1	1	1	0
31	1	1	1	1	1

DATA CODE / ACTUAL DATA

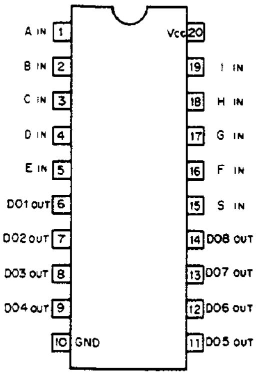
DATA CODE		ACTUAL DATA							
		DO8	DO7	DO6	DO5	DO4	DO3	DO2	DO1
0	00	0	0	0	0	0	0	0	0
1	01	0	0	0	0	0	0	0	1
2	02	0	0	0	0	0	0	1	0
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
8	08	0	0	0	0	1	0	0	0
9	09	0	0	0	0	1	0	0	1
10	0A	0	0	0	0	1	0	1	0
11	0B	0	0	0	0	1	0	1	1
12	0C	0	0	0	0	1	1	0	0
13	0D	0	0	0	0	1	1	0	1
14	0E	0	0	0	0	1	1	1	0
15	0F	0	0	0	0	1	1	1	1
16	10	0	0	0	1	0	0	0	0
17	11	0	0	0	1	0	0	0	1
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
238	EE	1	1	1	0	1	1	1	0
239	EF	1	1	1	0	1	1	1	1
240	F0	1	1	1	1	0	0	0	0
241	F1	1	1	1	1	0	0	0	1
242	F2	1	1	1	1	0	0	1	0
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
248	F8	1	1	1	1	1	0	0	0
249	F9	1	1	1	1	1	0	0	1
250	FA	1	1	1	1	1	0	1	0
251	FB	1	1	1	1	1	0	1	1
252	FC	1	1	1	1	1	1	0	0
253	FD	1	1	1	1	1	1	0	1
254	FE	1	1	1	1	1	1	1	0
255	FF	1	1	1	1	1	1	1	1

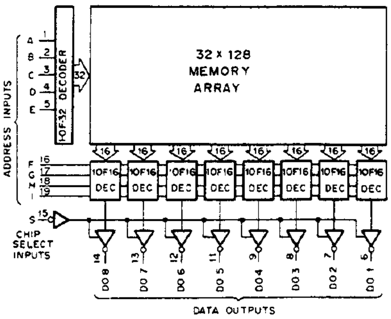
IN HEXADECIMAL
IN DECIMAL

MB7051-YCDL
PROGRAMMED DATA

WORD (ADDRESS)	DATA OUTPUTS (IN HEXADECIMAL)
0 – 15	35. 35. 35. D2. 57. 94. 73. B0. 9E. 9E. 9E. 9E. 9E. 9E. 9E. 9E.
16 – 31	EA. EA. EA. 4B. AC. 0D. 98. 29. 9E. 9E. 9E. 9E. 9E. 9E. 9E. 9E.

TBP28S42N(TI)
4096-BIT(512 x 8) PROM (3-STATE OUTPUT)
– TOP VIEW –





OUTPUT MODE

CHIP SEL S	OUTPUT
0	ENABLE
1	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
HI-Z; HIGH IMPEDANCE

TBP28S42N-CADR
PROGRAMMED DATA

WORD (ADDRESS)	DATA OUTPUTS (IN HEXADECIMAL)
0 - 15	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
16 - 31	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
32 - 47	21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F. 30.
48 - 63	31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F. 20.
64 - 79	20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F.
80 - 95	30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F.
96 - 111	21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F. 30.
112 - 127	31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F. 20.
128 - 143	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
144 - 159	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
160 - 175	21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F. 30.
176 - 191	31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F. 20.
192 - 207	20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F.
208 - 223	30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F.
224 - 239	21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F. 30.
240 - 255	31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F. 20.
256 - 271	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
272 - 287	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
288 - 303	21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F. 30.
304 - 319	31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F. 20.
320 - 335	20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F.
336 - 351	30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F.
352 - 367	21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F. 30.
368 - 383	31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F. 20.
384 - 399	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
400 - 415	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
416 - 431	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
432 - 447	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
448 - 463	20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F.
464 - 479	30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F.
480 - 495	20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F.
496 - 511	30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F.

WORD/ADDRESS TABLE

WORD	ADDRESS INPUT								
	I	H	G	F	E	D	C	B	A
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	1	0
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
509	1	1	1	1	1	1	1	0	1
510	1	1	1	1	1	1	1	1	0
511	1	1	1	1	1	1	1	1	1

0; LOW LEVEL
1; HIGH LEVEL

DATA CODE/ACTUAL DATA

DATA CODE		ACTUAL DATA							
		DO8	DO7	DO6	DO5	DO4	DO3	DO2	DO1
0	00	0	0	0	0	0	0	0	0
1	01	0	0	0	0	0	0	0	1
2	02	0	0	0	0	0	0	1	0
⋮		⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
8	08	0	0	0	0	1	0	0	0
9	09	0	0	0	0	1	0	0	1
10	0A	0	0	0	0	1	0	1	0
11	0B	0	0	0	0	1	0	1	1
12	0C	0	0	0	0	1	1	0	0
13	0D	0	0	0	0	1	1	0	1
14	0E	0	0	0	0	1	1	1	0
15	0F	0	0	0	0	1	1	1	1
16	10	0	0	0	1	0	0	0	0
17	11	0	0	0	1	0	0	0	1
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
238	EE	1	1	1	0	1	1	1	0
239	EF	1	1	1	0	1	1	1	1
240	F0	1	1	1	1	0	0	0	0
241	F1	1	1	1	1	0	0	0	1
242	F2	1	1	1	1	0	0	1	0
⋮		⋮	⋮	⋮	⋮	⋮	⋮		
248	F8	1	1	1	1	1	0	0	0
249	F9	1	1	1	1	1	0	0	1
250	FA	1	1	1	1	1	0	1	0
251	FB	1	1	1	1	1	0	1	1
252	FC	1	1	1	1	1	1	0	0
253	FD	1	1	1	1	1	1	0	1
254	FE	1	1	1	1	1	1	1	0
255	FF	1	1	1	1	1	1	1	1

IN HEXADECIMAL
IN DECIMAL

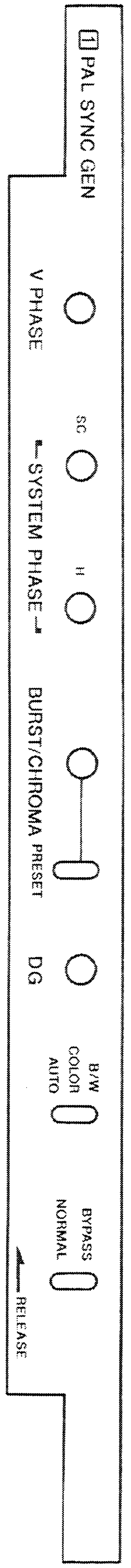
TBP28S42N-YADR
PROGRAMMED DATA

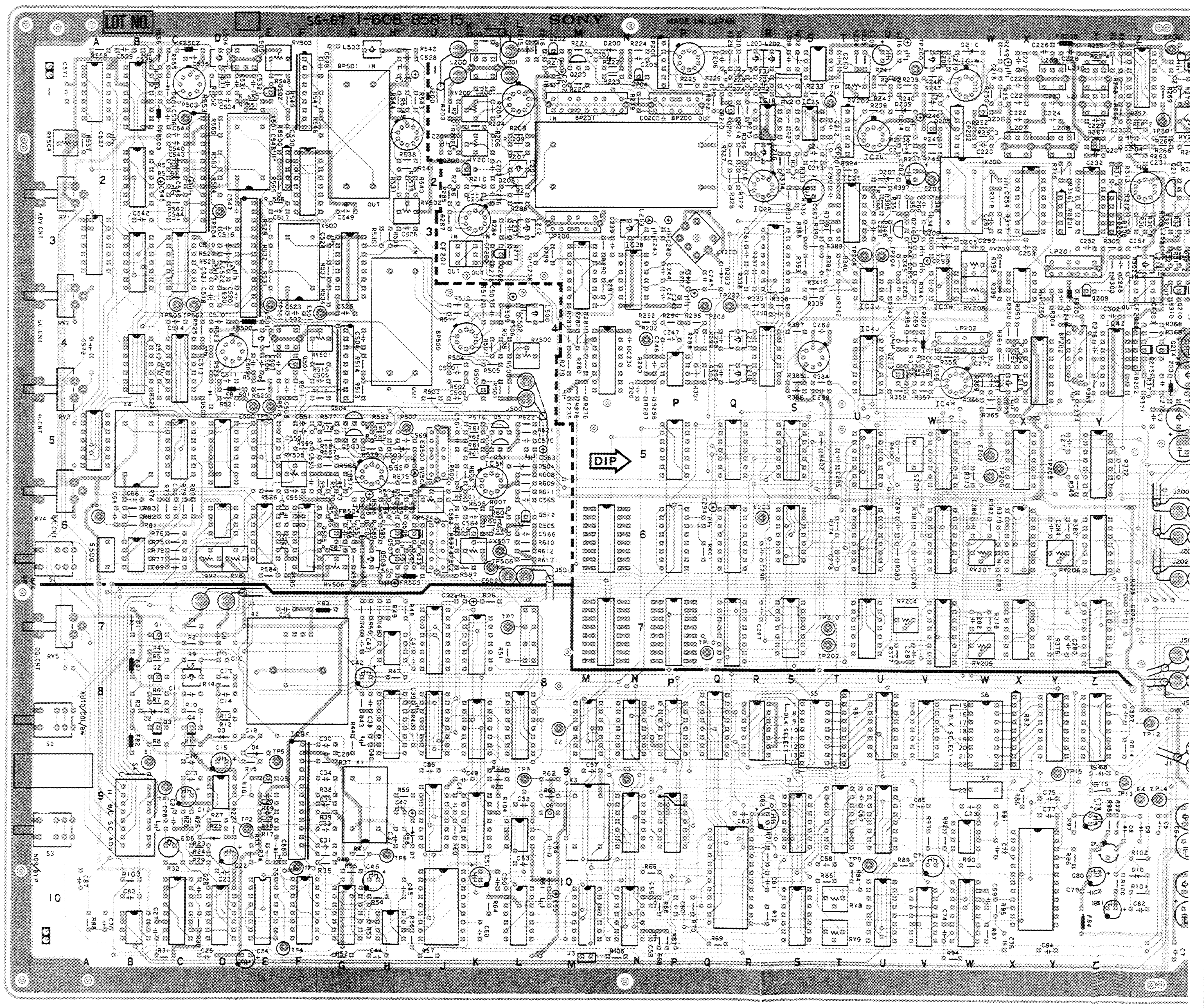
WORD (ADDRESS)	DATA OUTPUTS (IN HEXADECIMAL)
0 - 15	1D. 1E. 1F. 00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C.
16 - 31	0D. 0E. 0F. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C.
32 - 47	1D. 1E. 1F. 00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C.
48 - 63	0D. 0E. 0F. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C.
64 - 79	1D. 1E. 1F. 00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C.
80 - 95	0D. 0E. 0F. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C.
96 - 111	1D. 1E. 1F. 00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C.
112 - 127	0D. 0E. 0F. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C.
128 - 143	1D. 1E. 1F. 00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C.
144 - 159	0D. 0E. 0F. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C.
160 - 175	1D. 1E. 1F. 00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C.
176 - 191	0D. 0E. 0F. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C.
192 - 207	1D. 1E. 1F. 00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C.
208 - 223	0D. 0E. 0F. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C.
224 - 239	1D. 1E. 1F. 00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C.
240 - 255	0D. 0E. 0F. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C.
256 - 271	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
272 - 287	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
288 - 303	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
304 - 319	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
320 - 335	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
336 - 351	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
352 - 367	21. 22. 23. 24. 25. 26. 27. 28. 29. 2A. 2B. 2C. 2D. 2E. 2F. 30.
368 - 383	31. 32. 33. 34. 35. 36. 37. 38. 39. 3A. 3B. 3C. 3D. 3E. 3F. 20.
384 - 399	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
400 - 415	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
416 - 431	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
432 - 447	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
448 - 463	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
464 - 479	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.
480 - 495	00. 01. 02. 03. 04. 05. 06. 07. 08. 09. 0A. 0B. 0C. 0D. 0E. 0F.
496 - 511	10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 1A. 1B. 1C. 1D. 1E. 1F.

SECTION C
SCHEMATIC DIAGRAM & BOARD LAYOUT

1 SG-67 BOARD (1-608-858-14, 15)

Component Side


1 PAL SYNC GEN
V PHASE
SC
H
SYSTEM PHASE
BURST/CHROMA PRESET
DG
B/W
COLOR
AUTO
BYPASS
NORMAL
RELEASE


LOT NO.
SG-67 1-608-858-15
SONY
MADE IN JAPAN
DIP
A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
S
T
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V
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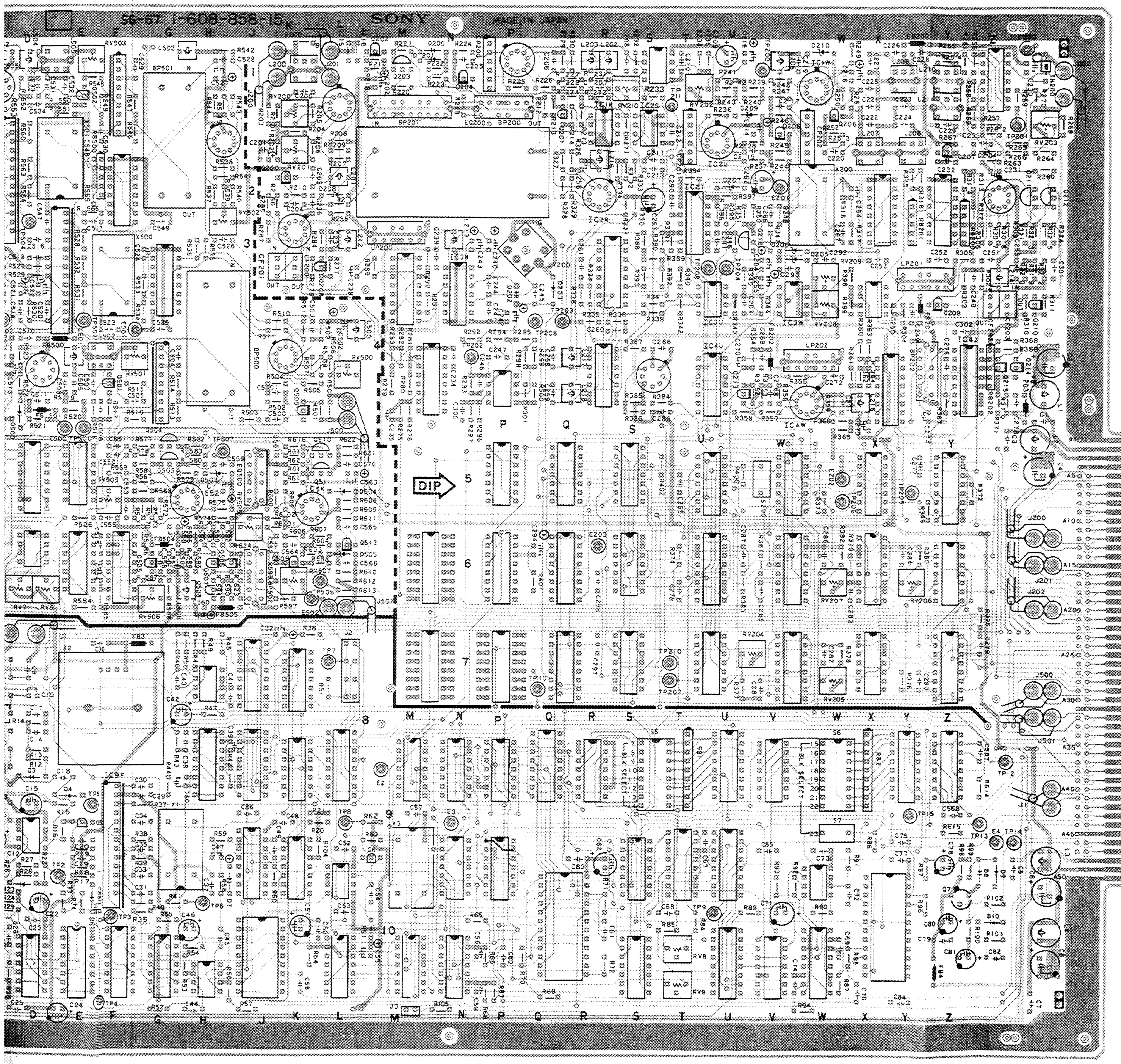
9
10

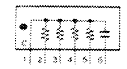


SG-67 (1-608-858-13, 14, 15)

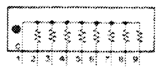
BVT-800PS (FOR PAL)
BKT-801 (FOR PAL)

CP200	1P
CP201	2T
CP202	2W
D1	7B
D2	8B
D3	8D
D4	8E
D5	9D
D6	9E
D7	9H
D8	9Z
D9	9Z
D10	10Z
D200	1M
D201	1M
D202	3P
D203	3Q
D204	2Z
D205	3W
D206	3W
D207	2U
D208	2L
D209	1V
D210	1W
D500	4D
D501	1C
D502	6G
D503	5H
D504	5L
D505	6L
E1	8B
E2	8L
E3	9N
E4	9Z
E200	1Z
E201	2V
E202	5W
E203	6R
E500	4E
E501	3F
E502	6K
EQ200	1P
EQ500	5J
IC1A	
IC1B	
IC1C	
IC1F	
IC1L	
IC1P	
IC1R	
IC1S	
IC1W	
IC1Z	
IC2B	
IC2C	
IC2F	
IC2H	
IC2R	
IC2S	
IC2T	
IC2U	
IC2X	
IC2Y	
IC2Z	
IC3A	
IC3B	
IC3C	
IC3E	
IC3G	
IC3K	
IC3M	
IC3N	
IC3R	
IC3U	
IC3W	
IC3X	
IC4B	
IC4C	
IC4D	
IC4G	
IC4K	
IC4M	
IC4P	
IC4R	
IC4S	
IC4U	
IC4W	
IC4X	
IC4Z	
IC5A	
IC5C	
IC5D	
IC5E	
IC5G	
IC5K	
IC5P	
IC5Q	
IC5S	
IC5U	
IC5W	
IC5X	
IC5Y	
IC6B	
IC6D	
IC6E	
IC6F	
IC6P	
IC6Q	
IC6S	
IC6U	
IC6W	
IC6X	
IC6Y	
IC7H	
IC7J	
IC7K	
IC7Q	
IC7S	
IC7U	
IC7W	
IC7X	
IC7Y	
IC8H	
IC8J	
IC8K	
IC8L	
IC8M	
IC8N	
IC8P	
IC8Q	
IC8R	
IC8U	
IC8V	
IC8Y	
IC8Z	
IC9D	
IC9F	
IC9J	
IC9K	
IC9L	
IC9N	
IC9P	
IC9S	
IC9T	
IC9U	
IC9W	
IC10B	
IC10C	
IC10D	
IC10E	
IC10F	
IC10G	
IC10H	
IC10J	
IC10L	
IC10M	
IC10N	
IC10Q	
IC10S	
IC10U	
IC10V	
IC10W	
IC10X	
J2	7L
J3	10M
LV200	3P
Q1	7B
Q2	8B
Q3	8B
Q4	8C
Q5	9E
Q6	9L
Q7	9Z
Q200	2K
Q201	1Q
Q202	1L
Q203	1M
Q204	1N
Q205	2V
Q206	1W
Q207	2Y
Q208	3K
Q209	3Y
Q210	3Z
Q211	2Z
Q212	2Z
Q213	4V
Q214	4Z
Q215	4Z
Q216	3V
Q500	4K
Q501	4F
Q502	1E
Q503	5G
Q504	5G
Q505	6G
Q506	6H
Q507	6H
Q508	6H
Q509	6K
Q510	5K
Q511	5K
Q512	6L
RB1	8T
RB2	8X
RB200	2Z
RB201	2Y
RB202	4Z
RB500	2E
RV1	2A
RV2	3A
RV3	4A
RV4	5A
RV5	7A
RV6	6D
RV7	6D
RV8	10T
RV9	10T
RV200	1K
RV201	2K
RV202	1T
RV203	1Z
RV204	7V
RV205	7W
RV206	6Y
RV207	6W
RV208	3W
RV209	3W
RV210	1S
RV500	4L
RV501	4F
RV502	2H
RV503	1E
RV504	2A
RV506	6G
RV507	6K
RV508	6J
S1	6A
S2	8A
S3	9A
S4	9B
S5	8S
S6	8W
S7	9W
S200	5V
S500	6A
TH200	1Z
TP1	9C
TP2	9E
TP3	10F
TP4	10E
TP5	8E
TP6	9H
TP7	7K
TP8	9L
TP9	9U
TP10	7Q
TP11	6A
TP12	8Z
TP13	9Z
TP14	9Z
TP15	8Y
TP200	1V
TP201	1Z
TP202	4N
TP203	3Q
TP204	3U
TP205	5Y
TP206	5W
TP207	7S
TP208	3Q
TP209	3U
TP210	7S
TP211	1S
TP500	4E
TP501	3E
TP502	3C
TP503	1C
TP504	2D
TP505	3C
TP506	6K
TP507	5H
X1	9G
X2	7E
X3	9M
X4	5B
X200	2W
X500	3F
X501	2E

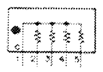
CP200, 201, 202



RB1, 2



RB200, 201, 202, 500

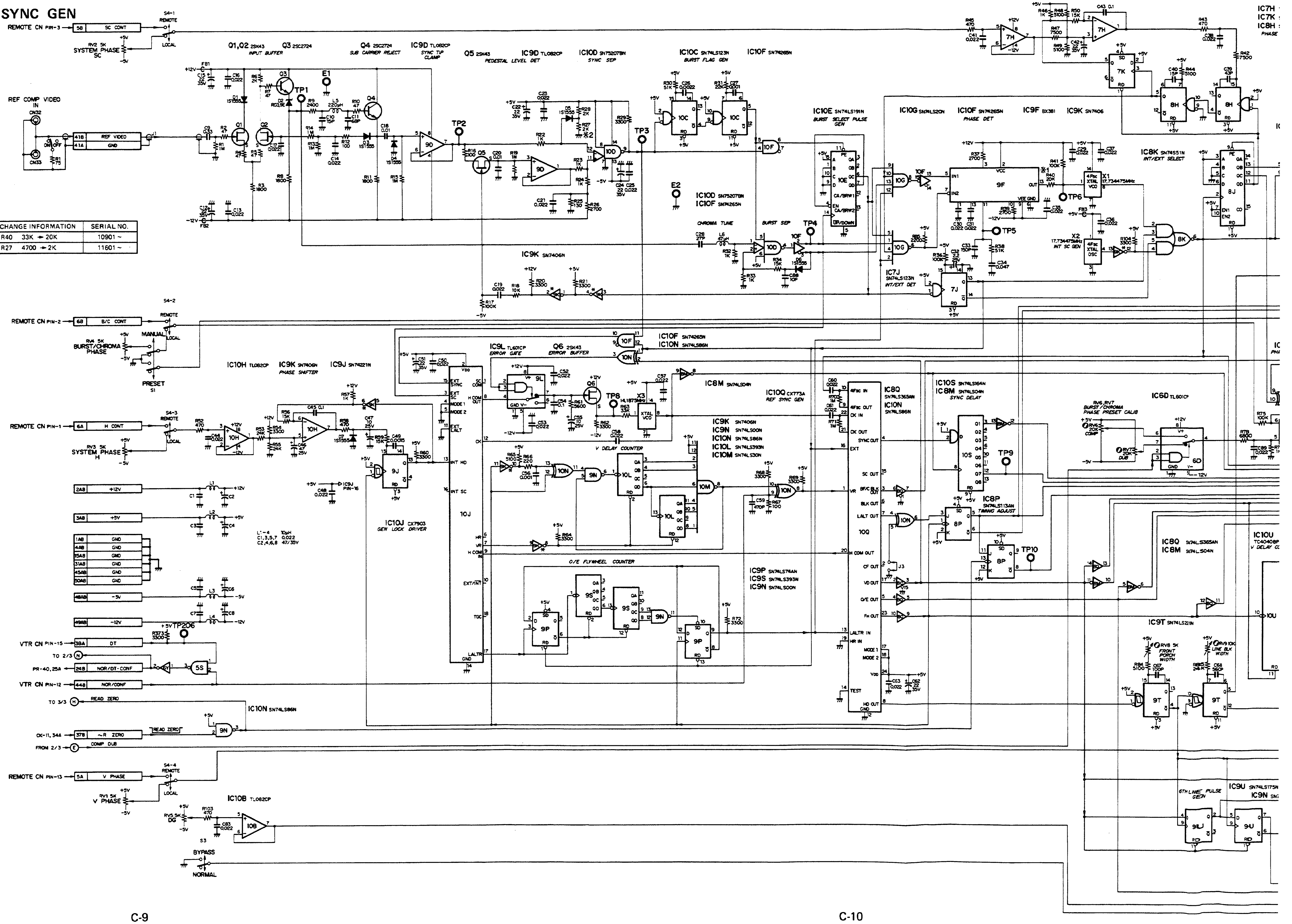


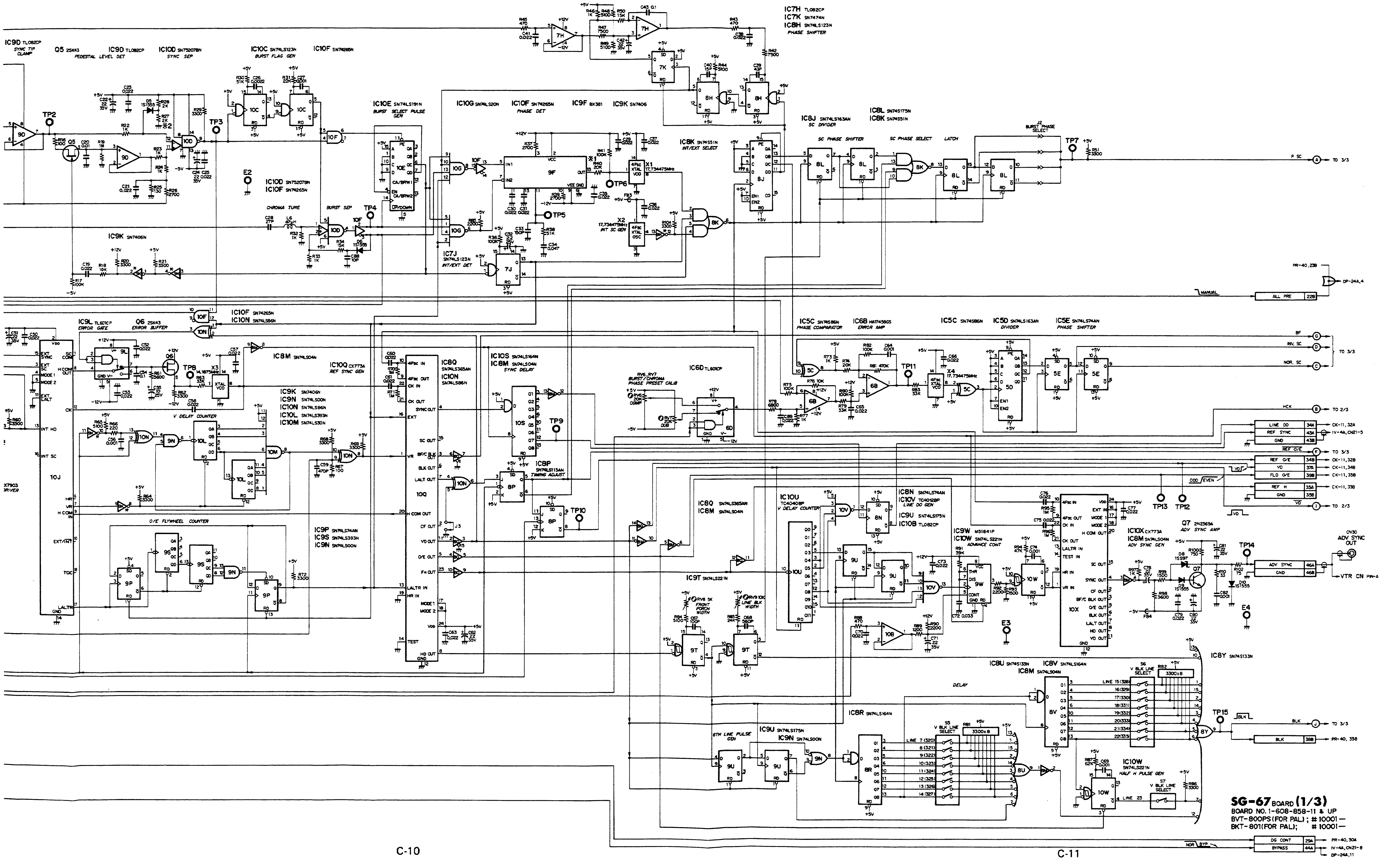
1 SG-67 BOARD (1/3); PAL SYNC GEN

Reference Sync Generator
Advanced Sync Generator
Blanking Pulse Generator
Line DO Pulse Generator
Proc SC Generator
Burst/Chroma Phase Control
SC Phase Control
System Phase Control
V Phase Control

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	R40 33K → 20K	10901 ~
※2	R27 4700 → 2K	11601 ~


REMOTE CN PIN-3
SC CONT
S4-1 REMOTE
LOCAL
RV2 5K SYSTEM PHASE SC
REF COMP VIDEO IN
CN32
CN33
REF VIDEO
GND
Q1,Q2 2SK43 INPUT BUFFER
Q3 2SC2724
Q4 2SC2724 SUB CARRIER REJECT
IC9D TL082CP SYNC TIP CLAMP
Q5 2SK43
IC9D TL082CP PEDESTAL LEVEL DET
IC10D SN75207BN SYNC SEP
IC10C SN74LS123N BURST FLAG GEN
IC10F SN74265N
IC10E SN74LS191N BURST SELECT PULSE GEN
IC10G SN74LS20N
IC10F SN74265N PHASE DET
IC9F BX381
IC9K SN7406
IC8K SN74S51N INT/EXT SELECT
IC7H
IC7K
IC8H
PHASE
TP1
TP2
TP3
TP4
TP5
TP6
TP8
TP9
TP10
TP206
E1
E2
IC10D SN75207BN
IC10F SN74265N
CHROMA TUNE
BURST SEP
IC9K SN7406N
X1 17.734475MHz
X2 17.734475MHz INT SC GEN
IC7J SN74LS123N INT/EXT DET
S4-2
REMOTE CN PIN-2
B/C CONT
MANUAL
LOCAL
RV4 5K BURST/CHROMA PHASE
PRESET
S1
IC10H TL082CP
IC9K SN7406N PHASE SHIFTER
IC9J SN74221N
IC10F SN74265N
IC10N SN74LS86N
IC9L TL601CP ERROR GATE
Q6 2SK43 ERROR BUFFER
IC8M SN74LS04N
IC10Q CX773A REF SYNC GEN
IC8Q SN74LS365AN
IC10N SN74LS86N
IC10S SN74LS164N
IC8M SN74LS04N SYNC DELAY
IC6D TL601CP
RV6,RV7 BURST/CHROMA PHASE PRESET CALIB
COMP
DUB
S4-3
REMOTE CN PIN-1
H CONT
RV3 5K SYSTEM PHASE H
X3 14.1875MHz
V DELAY COUNTER
IC9K SN7406N
IC9N SN74LS00N
IC10N SN74LS86N
IC10L SN74LS393N
IC10M SN74LS30N
IC10J CX7903 GEN LOCK DRIVER
IC8P SN74LS113AN TIMING ADJUST
IC8Q SN74LS365AN
IC8M SN74LS04N
IC10U TC4040BP V DELAY
L1-4 10μH
C1,3,5,7 0.022
C2,4,6,8 47/35V
O/E FLYWHEEL COUNTER
IC9P SN74LS74AN
IC9S SN74LS393N
IC9N SN74LS00N
IC9T SN74LS221N
RV8 5K FRONT PORCH WIDTH
RV9 10K LINE BLK WIDTH
VTR CN PIN-15
DT
TO 2/3
PR-40, 25A
NOR/DT-CONF
VTR CN PIN-12
NOR/CONF
TO 3/3
READ ZERO
IC10N SN74LS86N
CK-11, 34A
~R ZERO
FROM 2/3
COMP DUB
S4-4
REMOTE CN PIN-13
V PHASE
RV1 5K V PHASE
IC10B TL082CP
RV5 5K DG
S3
BYPASS
NORMAL
6TH LINE PULSE GEN
IC9U SN74LS175N
IC9N


IC9D TL082CP SYNC TIP CLAMP
Q5 2SK43 PEDESTAL LEVEL DET
IC9D TL082CP
IC10D SN75207BN SYNC SEP
IC10C SN74LS123N BURST FLAG GEN
IC10F SN74265N
IC10E SN74LS191N BURST SELECT PULSE GEN
IC10G SN74LS20N
IC10F SN74265N PHASE DET
IC9F BX381
IC9K SN7406
IC7H TL082CP
IC7K SN7474N
IC8H SN74LS123N PHASE SHIFTER
IC8J SN74LS163AN SC DIVIDER
IC8L SN74S175N
IC8K SN74S51N
IC8K SN74S51N INT/EXT SELECT
SC PHASE SHIFTER
SC PHASE SELECT
LATCH
J2 BURST PHASE SELECT
TP2
TP3
TP4
TP5
TP6
TP7
E2
X1 17.734475MHz
X2 17.734475MHz INT SC GEN
IC10D SN75207BN
IC10F SN74265N
CHROMA TUNE
BURST SEP
IC9K SN7406N
IC7J SN74LS123N INT/EXT DET
P SC
TO 3/3
PR-40, 23B
DP-24A, 4
MANUAL
ALL PRE 22B
IC9L TL601CP ERROR GATE
Q6 2SK43 ERROR BUFFER
IC10F SN74265N
IC10N SN74LS86N
IC8M SN74LS04N
IC10Q CX773A REF SYNC GEN
IC10S SN74LS164N
IC8M SN74LS04N SYNC DELAY
IC6D TL601CP
RV6, RV7 BURST/CHROMA PHASE PRESET CALIB
COMP
DUB
IC5C SN74S86N PHASE COMPARATOR
IC6B HA17458GS ERROR AMP
IC5C SN74S86N
IC5D SN74LS163AN DIVIDER
IC5E SN74S74AN PHASE SHIFTER
X3 14.1875MHz XTAL VCO
X4 17.734475MHz XTAL VCO
TP8
TP9
TP10
TP11
IC9K SN7406N
IC9N SN74LS00N
IC10N SN74LS86N
IC10L SN74LS393N
IC10M SN74LS30N
V DELAY COUNTER
IC8Q SN74LS365AN
IC10N SN74LS86N
IC8P SN74LS113AN TIMING ADJUST
BF
INV. SC
NOR. SC
HCK
TO 2/3
LINE DO 34A
REF SYNC 43A
GND 43B
CK-11, 32A
IV-4A, CN21-5
REF O/E
REF O/E 34B
VD 37A
FLD O/E 39B
CK-11, 32B
CK-11, 34B
CK-11, 35B
ODD/EVEN
REF H 35A
GND 35B
CK-11, 33B
10J
X7903 DRIVER
EXT SYNC
EXT SC
MODE 1
MODE 2
EXT LALT
INT HD
INT SC
HR
VR
H COM IN
EXT/INT
TGC
LALTR
GND
O/E FLYWHEEL COUNTER
IC9P SN74S74AN
IC9S SN74LS393N
IC9N SN74LS00N
10Q
4Fsc IN
4Fsc OUT
CK IN
CK OUT
SYNC OUT
EXT
SC OUT
BF/C BLK OUT
BLK OUT
LALT OUT
H COM OUT
CF OUT
VD OUT
O/E OUT
FH OUT
LALTR IN
HR IN
MODE 1
MODE 2
VDD
TEST
HD OUT
J3
IC8Q SN74LS365AN
IC8M SN74LS04N
IC10U TC4040BP V DELAY COUNTER
IC8N SN74LS74AN
IC10V TC4012BP LINE DO GEN
IC9U SN74LS175N
IC10B TL082CP
IC9W M51841P
IC10W SN74LS221N ADVANCE CONT
IC10X CX773A
IC8M SN74LS04N ADV SYNC GEN
Q7 2N2369A ADV SYNC AMP
TP12
TP13
TP14
CN30 ADV SYNC OUT
ADV SYNC 46A
GND 46B
VTR CN PIN-A
E3
E4
10X
IC9T SN74LS221N
RV8 5K FRONT PORCH WIDTH
RV9 10K LINE BLK WIDTH
IC8Y SN74S133N
IC8U SN74S133N
IC8V SN74LS164N
IC8M SN74LS04N
DELAY
S6 V BLK LINE SELECT
RB2 3300×8
LINE 15(328)
16(329)
17(330)
18(331)
19(332)
20(333)
21(334)
22(335)
TP15
BLK
BLK 38B
PR-40, 35B
IC8R SN74LS164N
IC9U SN74LS175N
IC9N SN74LS00N
6TH LINE PULSE GEN
S5 V BLK LINE SELECT
RB1 3300×8
LINE 7(320)
8(321)
9(322)
10(323)
11(324)
12(325)
13(326)
14(327)
IC10W SN74LS221N HALF H PULSE GEN
S7 V BLK LINE SELECT
LINE 23
NOR BYP
DG CONT 29A
BYPASS 44A
PR-40, 30A
IV-4A, CN21-8
DP-24A, 11

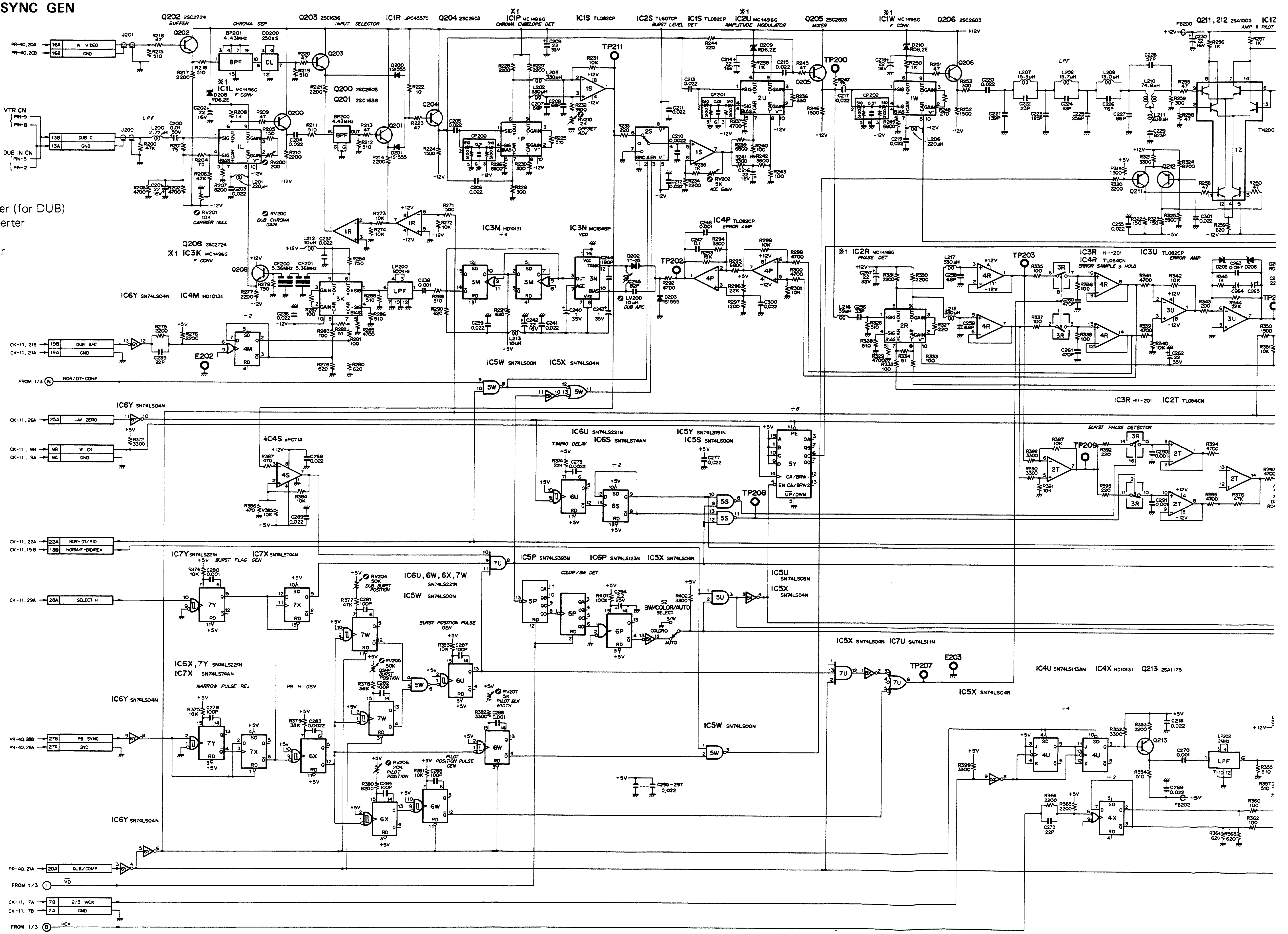
SG-67 BOARD (1/3)
BOARD NO. 1-608-858-11 & UP
BVT-800PS (FOR PAL) ; # 10001—
BKT-801 (FOR PAL); # 10001—

1 SG-67 BOARD (2/3); PAL SYNC GEN

Chroma Separator (for COMP)
Chroma Frequency Up Converter (for DUB)
Chroma Frequency Down Converter
Color/BW Detector
Write Odd/Even Pulse Generator

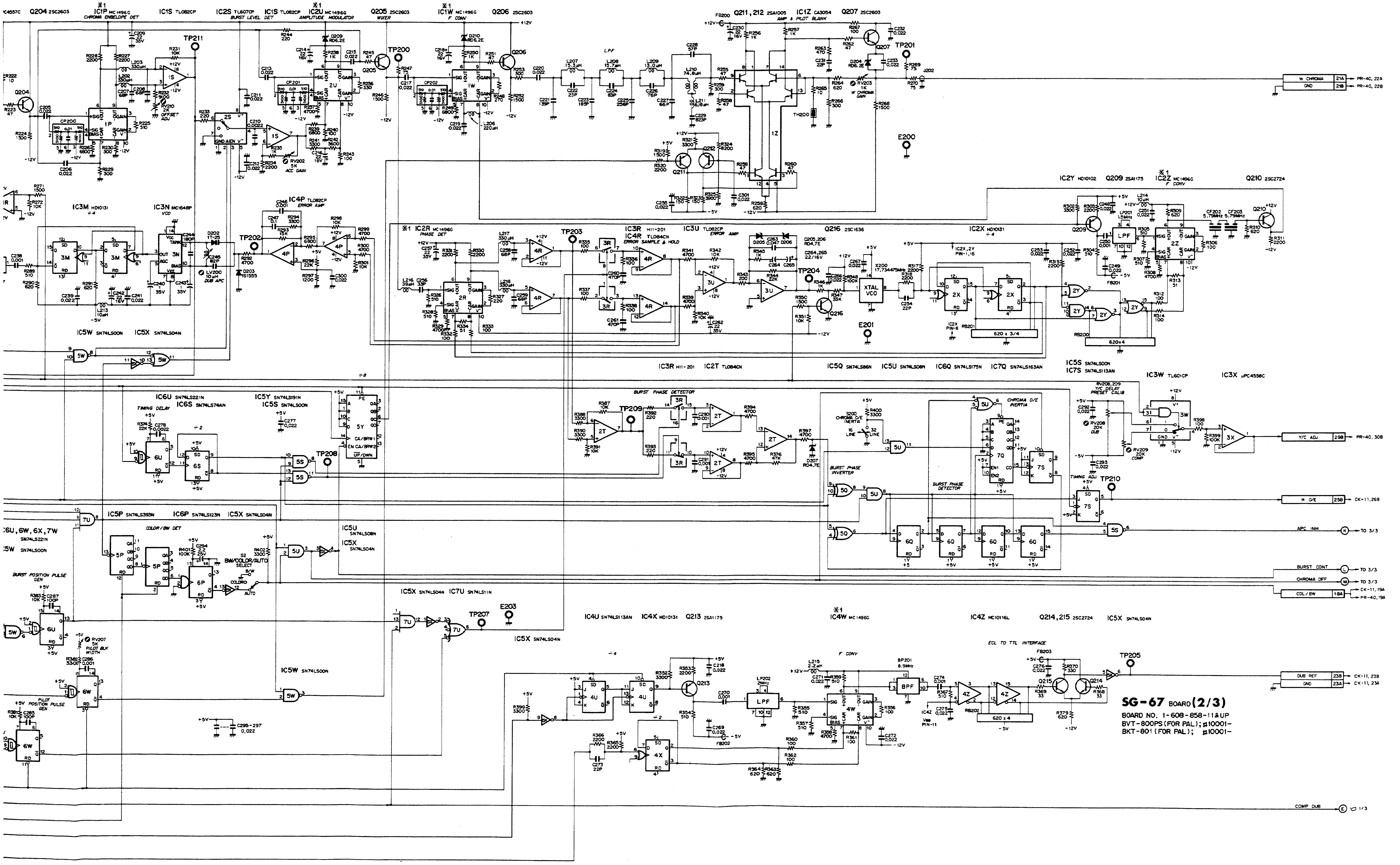
NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	IC1L, 1P, 1W, 2R, 2U, 2Z, 3K, 4W μA796HC → MC1496G	16701 ~


Q202 2SC2724 BUFFER
CHROMA SEP
Q203 2SC1636 INPUT SELECTOR
IC1R μPC4557C
Q204 2SC2603
※1 IC1P MC1496G CHROMA ENVELOPE DET
IC1S TL082CP
IC2S TL607CP BURST LEVEL DET
IC1S TL082CP
※1 IC2U MC1496G AMPLITUDE MODULATOR
Q205 2SC2603 MIXER
※1 IC1W MC1496G F CONV
Q206 2SC2603
Q211, 212 2SA1005 AMP & PILOT
BP201 4.43MHz
DL200 250nS
BPF
DL
※1 IC1L MC1496G F CONV
Q200 2SC2603
Q201 2SC1636
BP200 4.43MHz
TP211
TP200
LPF
VTR CN
DUB IN CN
RV201 10K CARRIER NULL
RV200 DUB CHROMA GAIN
RV202 5K ACC GAIN
RV210 2K OFFSET ADJ
Q208 2SC2724
※1 IC3K MC1496G F CONV
IC6Y SN74LS04N
IC4M HD10131
IC3M HD10131
IC3N MC1648P VCO
IC4P TL082CP ERROR AMP
TP202
LV200 10μH DUB APC
LP200 900KHz
E202
IC5W SN74LS00N
IC5X SN74LS04N
※1 IC2R MC1496G PHASE DET
TP203
IC3R HI1-201
IC4R TL084CN ERROR SAMPLE & HOLD
IC3U TL082CP ERROR AMP
IC3R HI1-201
IC2T TL084CN
BURST PHASE DETECTOR
TP209
4C4S μPC71A
IC6U SN74LS221N TIMING DELAY
IC6S SN74LS74AN
IC5Y SN74LS191N
IC5S SN74LS00N
TP208
IC7Y SN74LS221N BURST FLAG GEN
IC7X SN74LS74AN
IC5P SN74LS393N
IC6P SN74LS123N
IC5X SN74LS04N
COLOR/BW DET
IC5U SN74LS08N
IC5X SN74LS04N
IC6U, 6W, 6X, 7W SN74LS221N
IC5W SN74LS00N
RV204 50K DUB BURST POSITION
BURST POSITION PULSE GEN
S2 BW/COLOR/AUTO SELECT
RV205 50K COMP BURST POSITION
IC5X SN74LS04N
IC7U SN74LS11N
TP207
E203
IC6X, 7Y SN74LS221N
IC7X SN74LS74AN
NARROW PULSE REJ
PB H GEN
RV207 5K PILOT BLK WIDTH
RV206 20K PILOT POSITION
PILOT POSITION PULSE GEN
IC4U SN74LS113AN
IC4X HD10131
Q213 2SA1175
LP202 2MHz
F8200
F8202
CK-11, 26A
CK-11, 9B
CK-11, 9A
CK-11, 22A
CK-11, 19B
CK-11, 29A
PR-40, 28B
PR-40, 28A
PR-40, 21A
CK-11, 7A
CK-11, 7B
FROM 1/3
W VIDEO
GND
DUB C
DUB AFC
NOR/DT-CONF
W ZERO
W CK
NOR-DT/BID
NORM/F-BIDREX
SELECT H
PB SYNC
DUB/COMP
VD
2/3 WCK
HCK

C-15

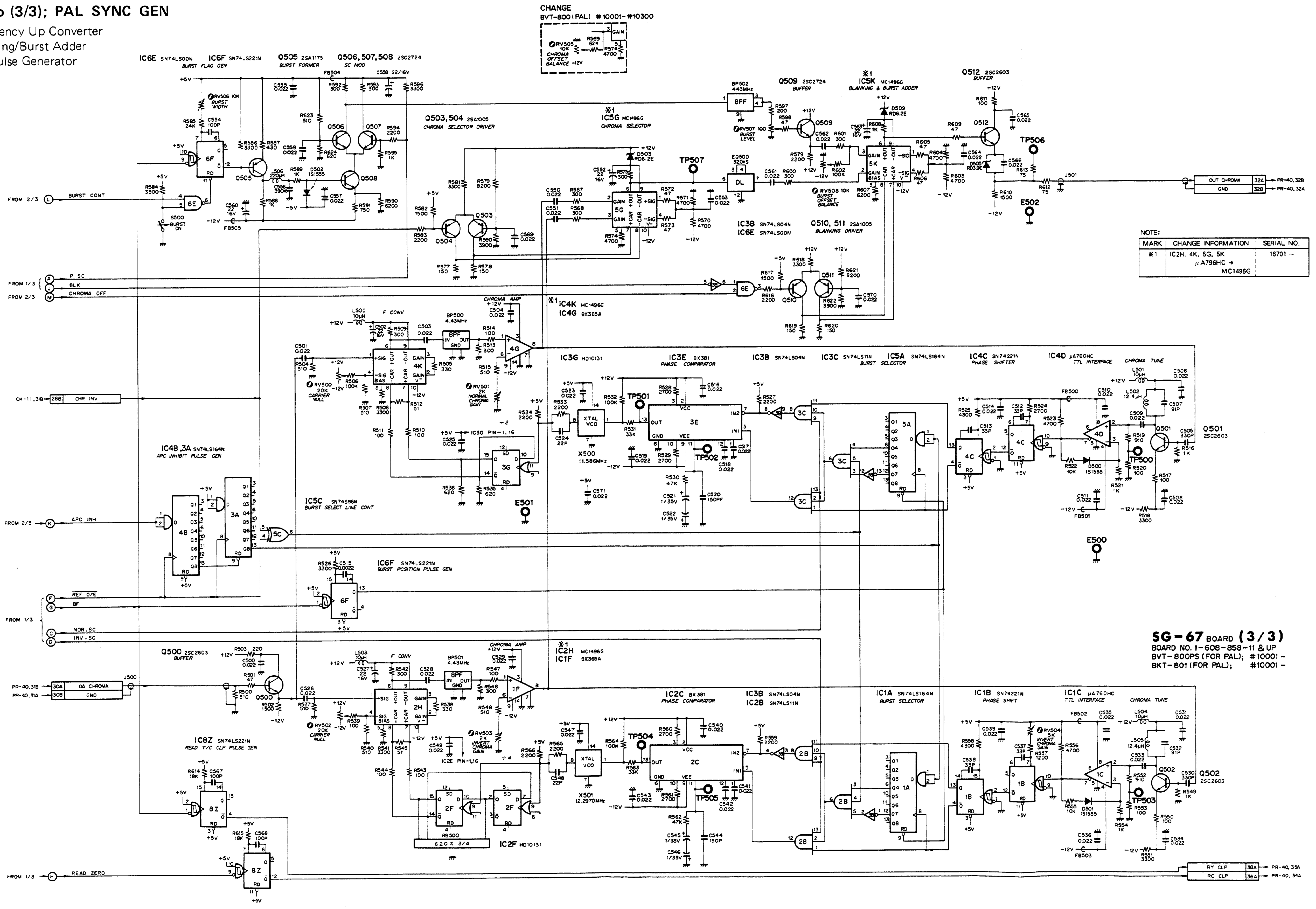
C-16


IC1P MC1496G CHROMA ENBELOPE DET
IC1S TL082CP
IC2S TL607CP BURST LEVEL DET
IC2U MC1496G AMPLITUDE MODULATOR
Q205 2SC2603 MIXER
IC1W MC1496G F CONV
Q206 2SC2603
Q204 2SC2603
Q211,212 2SA1005
IC1Z CA3054 AMP & PILOT BLANK
Q207 2SC2603
LPF
TP211
TP200
TP201
TP202
TP203
TP204
TP205
TP207
TP208
TP209
TP210
E200
E201
E203
IC3M HD10131 ÷4
IC3N MC1648P VCO
IC4P TL082CP ERROR AMP
IC2R MC1496G PHASE DET
IC3R H11-201
IC4R TL084CN ERROR SAMPLE & HOLD
IC3U TL082CP ERROR AMP
Q216 2SC1636
IC2X HD10131 ÷4
IC2Y HD10102
Q209 2SA1175
IC2Z MC1496G F CONV
Q210 2SC2724
XTAL VCO
X200 17.734475MHz
IC5W SN74LS00N
IC5X SN74LS04N
IC3R H11-201
IC2T TL084CN
IC5Q SN74LS86N
IC5U SN74LS08N
IC6Q SN74LS175N
IC7Q SN74LS163AN
IC5S SN74LS00N
IC7S SN74LS113AN
IC3W TL601CP
IC3X μPC4556C
BURST PHASE DETECTOR
CHROMA O/E INERTIA
IC6U SN74LS221N
IC6S SN74LS74AN
TIMING DELAY
IC5Y SN74LS191N
IC5S SN74LS00N
RV208,209 Y/C DELAY PRESET CALIB
TIMING ADJ.
BURST PHASE INVERTER
BURST PHASE DETECTOR
IC5P SN74LS393N
IC6P SN74LS123N
IC5X SN74LS04N
COLOR/BW DET
S2 BW/COLOR/AUTO SELECT
IC5U SN74LS08N
IC5X SN74LS04N
IC6U,6W,6X,7W SN74LS221N
IC5W SN74LS00N
BURST POSITION PULSE GEN
PILOT BLK WIDTH
PILOT POSITION PULSE GEN
IC5X SN74LS04N
IC7U SN74LS11N
IC4U SN74LS113AN
IC4X HD10131
Q213 2SA1175
IC4W MC1496G F CONV
IC4Z MC10116L
Q214,215 2SC2724
ECL TO TTL INTERFACE
BPF
BP201 8.9MHz
LP202 2MHz
W CHROMA 21A PR-40, 22A
GND 21B PR-40, 22B
Y/C ADJ 29B PR-40, 30B
W O/E 25B CK-11, 26B
APC INH TO 3/3
BURST CONT TO 3/3
CHROMA OFF TO 3/3
COL/BW 18A CK-11, 19A PR-40, 19A
DUB REF 23B CK-11, 23B
GND 23A CK-11, 23A
COMP DUB TO 1/3
※1

SG-67 BOARD **(2/3)**
BOARD NO. 1-608-858-11 & UP
BVT-800PS (FOR PAL); ♯10001-
BKT-801 (FOR PAL); ♯10001-

1 SG-67 BOARD (3/3); PAL SYNC GEN

Chroma Frequency Up Converter
Chroma Blanking/Burst Adder
Read Clamp Pulse Generator


CHANGE
BVT-800 (PAL) #10001-#10300
RV505 10K CHROMA OFFSET BALANCE -12V
IC6E SN74LS00N
IC6F SN74LS221N BURST FLAG GEN
Q505 2SA1175 BURST FORMER
Q506, 507, 508 2SC2724 SC MOD
Q503, 504 2SA1005 CHROMA SELECTOR DRIVER
※1 IC5G MC1496G CHROMA SELECTOR
Q509 2SC2724 BUFFER
※1 IC5K MC1496G BLANKING & BURST ADDER
Q512 2SC2603 BUFFER
BP502 4.43MHz
RV507 100 BURST LEVEL
RV508 10K BURST OFFSET BALANCE
RV506 10K BURST WIDTH
TP507
TP506
E502
DL
IC3B SN74LS04N
IC6E SN74LS00N
Q510, 511 2SA1005 BLANKING DRIVER
FROM 2/3 L BURST CONT
S500 BURST ON
FROM 1/3 A P SC
J BLK
FROM 2/3 M CHROMA OFF
OUT CHROMA 32A PR-40, 32B
GND 32B PR-40, 32A
J501
※1 IC4K MC1496G
IC4G BX365A
CHROMA AMP
F CONV
BP500 4.43MHz
RV500 20K CARRIER NULL
RV501 2K NORMAL CHROMA GAIN
IC3G HD10131
IC3E BX381 PHASE COMPARATOR
IC3B SN74LS04N
IC3C SN74LS11N
IC5A SN74LS164N BURST SELECTOR
IC4C SN74221N PHASE SHIFTER
IC4D μA760HC TTL INTERFACE
CHROMA TUNE
X500 11.586MHz
XTAL VCO
TP501
TP502
TP500
E501
E500
Q501 2SC2603
CK-11, 31B 28B CHR INV
IC4B, 3A SN74LS164N APC INHIBIT PULSE GEN
IC5C SN74S86N BURST SELECT LINE CONT
FROM 2/3 K APC INH
IC6F SN74LS221N BURST POSITION PULSE GEN
FROM 1/3 F REF O/E
G BF
C NOR.SC
D INV.SC
Q500 2SC2603 BUFFER
PR-40, 31B 30A DA CHROMA
PR-40, 31A 30B GND
J500
※1 IC2H MC1496G
IC1F BX365A
BP501 4.43MHz
RV502 20K CARRIER NULL
RV503 2K INVERT CHROMA GAIN
IC2C BX381 PHASE COMPARATOR
IC3B SN74LS04N
IC2B SN74LS11N
IC1A SN74LS164N BURST SELECTOR
IC1B SN74221N PHASE SHIFT
IC1C μA760HC TTL INTERFACE
CHROMA TUNE
RV504 5K INVERT CHROMA GAIN
X501 12.2970MHz
TP504
TP505
TP503
Q502 2SC2603
IC8Z SN74LS221N READ Y/C CLP PULSE GEN
IC2F HD10131
620 X 3/4
FROM 1/3 H READ ZERO
RY CLP 36A PR-40, 35A
RC CLP 36A PR-40, 34A

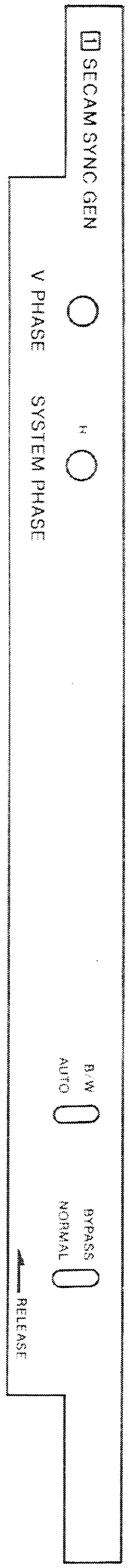
NOTE:

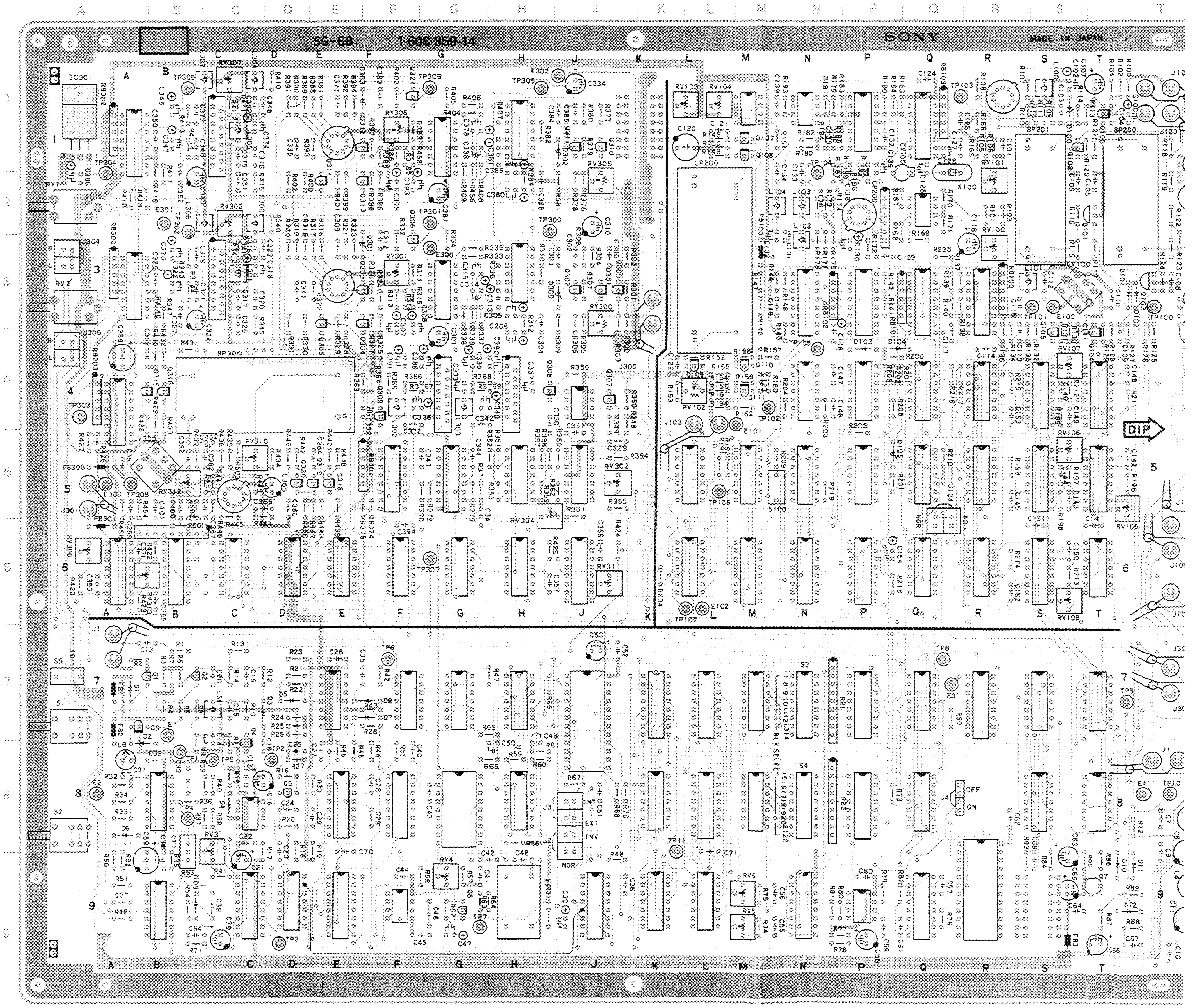
MARK	CHANGE INFORMATION	SERIAL NO.
※1	IC2H, 4K, 5G, 5K μA796HC → MC1496G	16701 ~

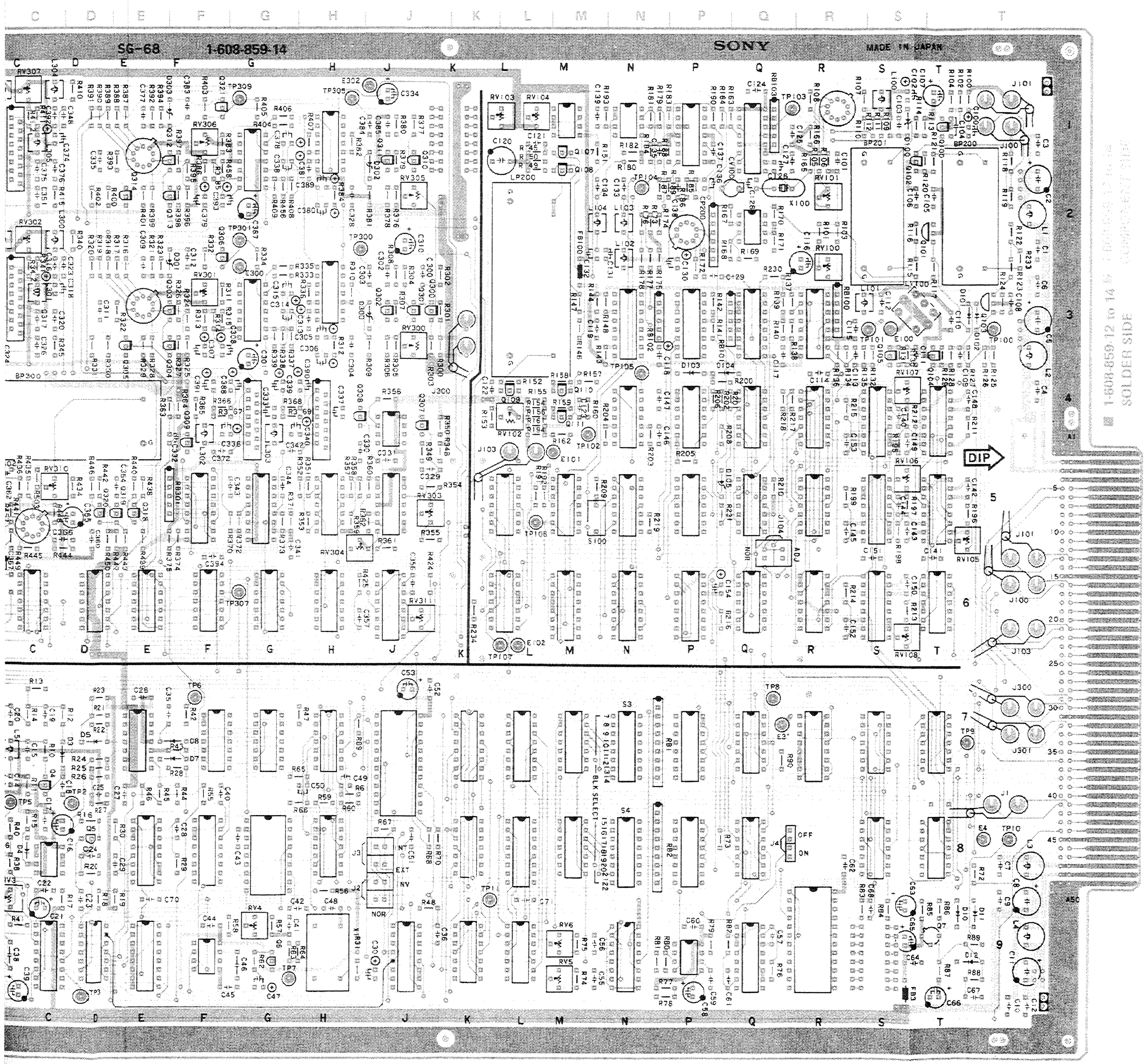
SG-67 BOARD (3/3)
BOARD NO. 1-608-858-11 & UP
BVT-800PS (FOR PAL); #10001 -
BKT-801 (FOR PAL); #10001 -

1 SG-68 BOARD (1-608-859-12 to 14)

Component Side


1 SECAM SYNC GEN
V PHASE
SYSTEM PHASE
H
B/W
AUTO
BYPASS
NORMAL
RELEASE


SG-68
1-608-859-14
SONY
MADE IN JAPAN
DIP
A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
S
T

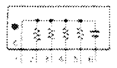


SG-68 (1-608-859-11 to 14)

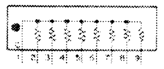
BVT 800PS (FOR SECAM)
BKT 802 (FOR SECAM)

CP200	2P
CV100	1Q
D1	7A
D2	7A
D3	7C
D4	8C
D5	7D
D6	8A
D7	7F
D8	7F
D9	9B
D10	9T
D11	9T
D12	9T
D100	1S
D101	3T
D102	3T
D103	4P
D104	4Q
D105	5P
D300	3J
D301	3F
D302	1J
D303	1F
E1	7B
E2	8A
E3	7Q
E4	8T
E100	3S
E101	4M
E102	6L
E300	3G
E301	2B
E302	1J
E303	5A
IC1A	
IC1C	
IC1E	
IC1G	
IC1H	
IC1M	
IC1N	
IC1P	
IC1Q	
IC1R	
IC2P	
IC2Q	
IC301	1A
IC3A	
IC3C	
IC3F	
IC3G	
IC3H	
IC3N	
IC3P	
IC3Q	
IC3R	
IC4A	
IC4G	
IC4H	
IC4J	
IC4N	
IC4P	
IC4Q	
IC4R	
IC4S	
IC4T	
IC5A	
IC5C	
IC5F	
IC5G	
IC5H	
IC5J	
IC5L	
IC5M	
IC5N	
IC5P	
IC5Q	
IC5R	
IC5S	
IC5T	
IC6A	
IC6B	
IC6C	
IC6D	
IC6E	
IC6F	
IC6G	
IC6H	
IC6J	
IC6L	
IC6M	
IC6N	
IC6P	
IC6Q	
IC6R	
IC6S	
IC6T	
IC7E	
IC7F	
IC7G	
IC7H	
IC7J	
IC7K	
IC7L	
IC7M	
IC7P	
IC7Q	
IC7R	
IC7S	
IC7T	
IC8B	
IC8C	
IC8E	
IC8F	
IC8G	
IC8H	
IC8K	
IC8L	
IC8M	
IC8P	
IC8Q	
IC8S	
IC8T	
IC9B	
IC9C	
IC9D	
IC9E	
IC9F	
IC9J	
IC9K	
IC9L	
IC9N	
IC9P	
IC9Q	
IC9R	
J2	8J
J3	8J
J4	8R
J104	5Q
J304	3A
J305	4A
LV100	3S
LV300	5B
Q1	7A
Q2	7B
Q3	7A
Q4	7C
Q5	8D
Q6	9G
Q7	9T
Q100	1T
Q101	2T
Q102	1S
Q103	3T
Q104	3T
Q105	3S
Q107	1M
Q108	1M
Q109	4L
Q110	4M
Q111	4M
Q300	3J
Q301	3J
Q302	3J
Q303	3F
Q304	3F
Q305	3E
Q306	3F
Q307	4J
Q308	4H
Q309	4F
Q310	1J
Q311	1J
Q312	1F
Q313	2F
Q314	2E
Q315	4B
Q316	4B
Q318	5E
Q319	5E
Q320	5D
RB1	7N
RB2	8N
RB100	3R
RB101	3Q
RB102	3N
RB103	1Q
RB300	3A
RB301	5F
RB302	1A
RB303	4A
RV1	2A
RV2	3A
RV3	8C
RV4	9G
RV5	9M
RV6	9M
RV100	3R
RV101	1R
RV102	4L
RV103	1L
RV104	1L
RV105	5T
RV106	5S
RV107	4S
RV108	6S
RV300	3J
RV301	3F
RV302	2C
RV303	5J
RV304	5H
RV305	1J
RV306	1F
RV307	1C
RV308	6A
RV310	5C
RV311	6J
RV312	5B
RV313	6A
S1	7A
S2	8A
S3	7N
S4	9N
S5	7A
S100	5M
TP1	8B
TP2	8D
TP3	9D
TP4	8B
TP5	8C
TP6	7F
TP7	9G
TP8	7Q
TP9	7T
TP10	8T
TP11	8K
TP100	3T
TP101	3S
TP102	4M
TP103	1R
TP104	1N
TP105	4N
TP106	5L
TP107	6L
TP300	2H
TP301	2G
TP302	2B
TP303	3A
TP304	1A
TP305	1H
TP306	1B
TP307	6G
TP308	5A
TP309	1G
X1	9H
X100	1Q

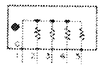
CP200



RB1, 2



RB100, 101, 102, 103,
300, 301, 302, 303

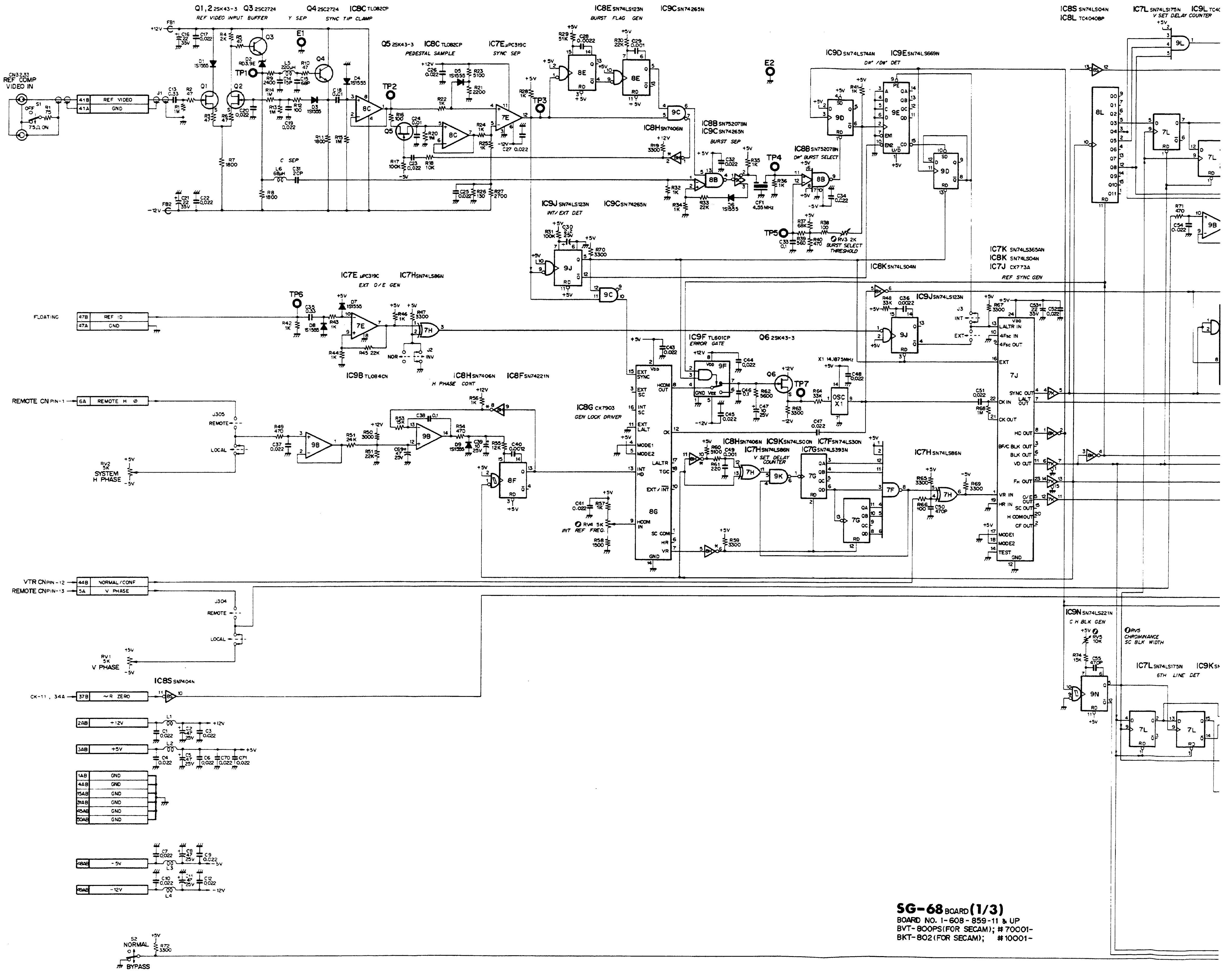


C-26 (BVT-800PS)
C- 4 (BKT-802)

C-27 (BVT-800PS)
C- 5 (BKT-802)

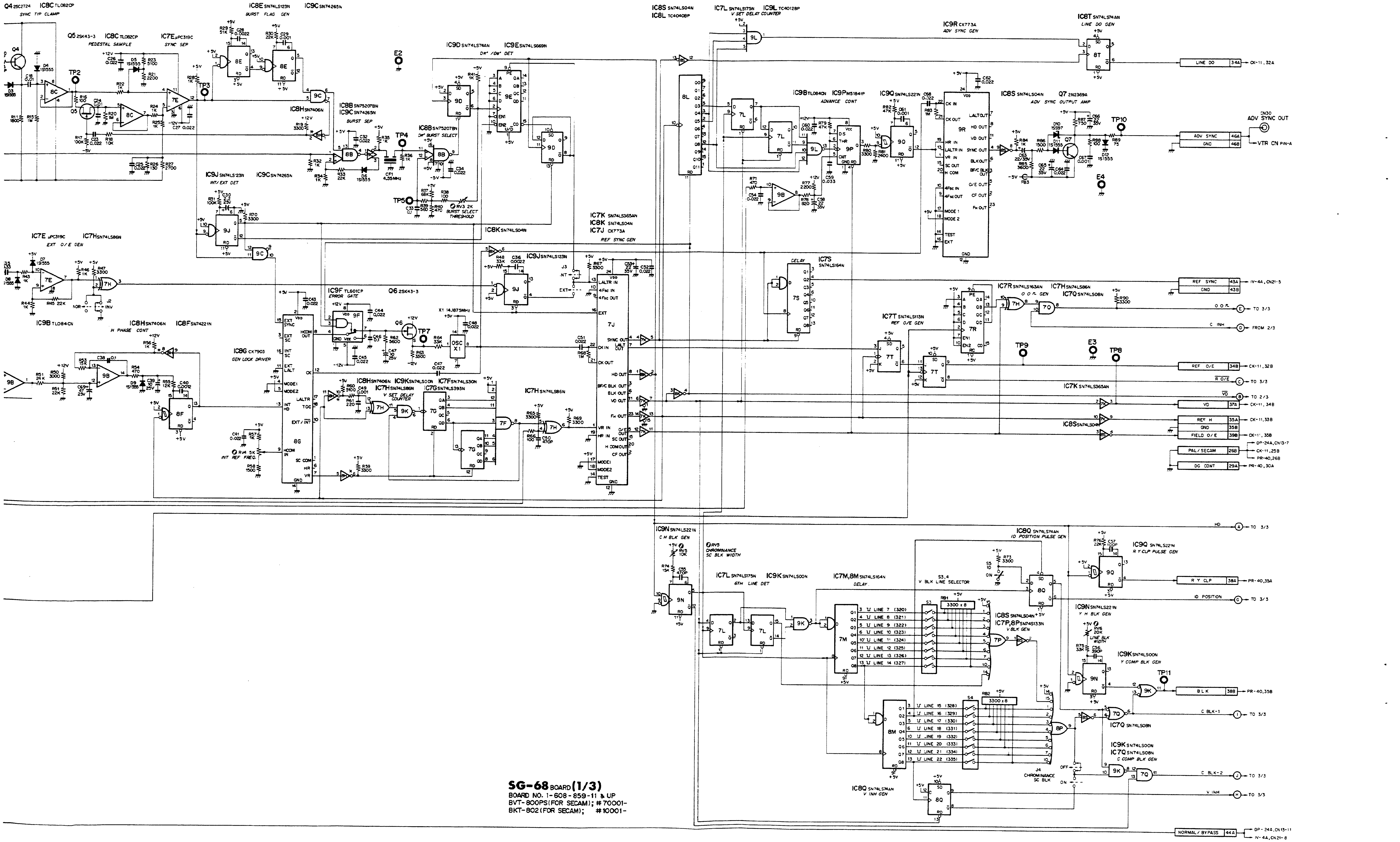
1 SG-68 BOARD (1/3); SECAM SYNC GEN

Reference Sync Generator
Advanced Sync Generator
Blanking Pulse Generator
Line DO Pulse Generator
Read Y Clamp Pulse Generator
System Phase Control
V Phase Control


Q1, 2 2SK43-3 Q3 2SC2724 REF VIDEO INPUT BUFFER
Q4 2SC2724 Y SEP
IC8C TL082CP SYNC TIP CLAMP
Q5 2SK43-3 IC8C TL082CP PEDESTAL SAMPLE
IC7E μPC319C SYNC SEP
IC8E SN74LS123N BURST FLAG GEN
IC9C SN74265N
IC9D SN74LS74AN IC9E SN74LS669N DH'/DK' DET
IC8S SN74LS04N
IC8L TC4040BP
IC7L SN74LS175N IC9L TC40 V SET DELAY COUNTER
CN32,33 REF COMP VIDEO IN
S1 OFF 75Ω ON
REF VIDEO
GND
TP1
TP2
TP3
TP4
TP5
TP6
TP7
E1
E2
IC8B SN75207BN IC9C SN74265N BURST SEP
IC8H SN7406N
IC8B SN75207BN DH' BURST SELECT
CF1 4.55MHz
RV3 2K BURST SELECT THRESHOLD
IC9J SN74LS123N INT/EXT DET
IC9C SN74265N
IC8K SN74LS04N
IC7K SN74LS365AN
IC8K SN74LS04N
IC7J CX773A REF SYNC GEN
IC7E μPC319C IC7H SN74LS86N EXT O/E GEN
FLOATING
REF ID
IC9B TL084CN
NOR
INV
J2
IC9J SN74LS123N
J3 INT EXT
X1 14.1875MHz
OSC X1
IC9F TL601CP ERROR GATE
Q6 2SK43-3
IC8G CX7903 GEN LOCK DRIVER
REMOTE CN PIN-1
REMOTE H Ø
J305 REMOTE LOCAL
IC8H SN7406N IC8F SN74221N H PHASE CONT
RV2 5K SYSTEM H PHASE
RV4 5K INT REF FREQ.
IC8H SN7406N IC9K SN74LS00N IC7F SN74LS30N
IC7H SN74LS86N IC7G SN74LS393N V SET DELAY COUNTER
IC7H SN74LS86N
VTR CN PIN-12
REMOTE CN PIN-13
NORMAL/CONF
V PHASE
J304 REMOTE LOCAL
RV1 5K V PHASE
IC8S SN7404N
CK-11, 34A
~R ZERO
+12V
+5V
GND
-5V
-12V
S2 NORMAL BYPASS
IC9N SN74LS221N C H BLK GEN
RV5 CHROMINANCE SC BLK WIDTH
IC7L SN74LS175N IC9K SN 6TH LINE DET
SG-68 BOARD (1/3)
BOARD NO. 1-608-859-11 & UP
BVT-800PS (FOR SECAM); #70001-
BKT-802 (FOR SECAM); #10001-

C-31 (BVT-800PS)
C-9 (BKT-802)

C-32 (BVT-800PS)
C-10 (BKT-802)


Q4 2SC2724 IC8C TL082CP
SYNC TIP CLAMP
Q5 2SK43-3 IC8C TL082CP
PEDESTAL SAMPLE
IC7E μPC319C
SYNC SEP
IC8E SN74LS123N
BURST FLAG GEN
IC9C SN74265N
IC8H SN7406N
IC8B SN75207BN
IC9C SN74265N
BURST SEP
CF1 4.55MHz
IC8B SN75207BN
DP BURST SELECT
RV3 2K
BURST SELECT THRESHOLD
IC9D SN74LS74AN IC9E SN74LS669N
DP / DP DET
IC9J SN74LS123N IC9C SN74265N
INT/EXT DET
IC7E μPC319C IC7H SN74LS86N
EXT O/E GEN
IC9B TL084CN
IC8H SN7406N IC8F SN74221N
H PHASE CONT
IC8G CX7903
GEN LOCK DRIVER
IC9F TL601CP
ERROR GATE
Q6 2SK43-3
X1 14.1875MHz
RV4 5K
INT REF FREQ.
IC8H SN7406N IC9K SN74LS00N IC7F SN74LS30N
IC7H SN74LS86N IC7G SN74LS393N
V SET DELAY COUNTER
IC8K SN74LS04N
IC9J SN74LS123N
IC7K SN74LS365AN
IC8K SN74LS04N
IC7J CX773A
REF SYNC GEN
IC7H SN74LS86N
IC8S SN74LS04N
IC8L TC4040BP
IC7L SN74LS175N IC9L TC4012BP
V SET DELAY COUNTER
IC9R CX773A
ADV SYNC GEN
IC8T SN74LS74AN
LINE DO GEN
LINE DO 34A CK-11, 32A
IC9B TL084CN IC9P M51841P
ADVANCE CONT
IC9Q SN74LS221N
IC8S SN74LS04N Q7 2N2369A
ADV SYNC OUTPUT AMP
TP10
CN30 ADV SYNC OUT
ADV SYNC 46A
GND 46B
VTR CN PIN-A
IC7S SN74LS164N
DELAY
REF SYNC 43A IV-4A, CN21-5
GND 43B
IC7R SN74LS163AN IC7H SN74LS86N
O/O F GEN
IC7Q SN74LS08N
O O F E TO 3/3
C INH D FROM 2/3
IC7T SN74LS113N
REF O/E GEN
TP9 E3 TP8
REF O/E 34B CK-11, 32B
R O/E C TO 3/3
IC7K SN74LS365AN
VD B TO 2/3
VD 37A CK-11, 34B
IC8S SN74LS04N
REF H 35A CK-11, 33B
GND 35B
FIELD O/E 39B CK-11, 35B
DP-24A, CN13-7
PAL/SECAM 26B CK-11, 25B
PR-40, 26B
DG CONT 29A PR-40, 30A
HD A TO 3/3
IC9N SN74LS221N
C H BLK GEN
RV3 10K
RV5 CHROMINANCE SC BLK WIDTH
IC7L SN74LS175N IC9K SN74LS00N
6TH LINE DET
IC7M, 8M SN74LS164N
DELAY
S3, 4
V BLK LINE SELECTOR
RB1 3300 x 8
3 LINE 7 (320)
4 LINE 8 (321)
5 LINE 9 (322)
6 LINE 10 (323)
10 LINE 11 (324)
11 LINE 12 (325)
12 LINE 13 (326)
13 LINE 14 (327)
IC8Q SN74LS74AN
ID POSITION PULSE GEN
IC9Q SN74LS221N
R Y CLP PULSE GEN
R Y CLP 38A PR-40, 35A
ID POSITION G TO 3/3
IC8S SN74LS04N
IC7P, 8P SN74S133N
V BLK GEN
IC9N SN74LS221N
Y H BLK GEN
RV6 20K LINE BLK WIDTH
IC9K SN74LS00N
Y COMP BLK GEN
TP11
BLK 38B PR-40, 35B
C BLK-1 I TO 3/3
IC7Q SN74LS08N
RB2 3300 x 8
3 LINE 15 (328)
4 LINE 16 (329)
5 LINE 17 (330)
6 LINE 18 (331)
10 LINE 19 (332)
11 LINE 20 (333)
12 LINE 21 (334)
13 LINE 22 (335)
IC9K SN74LS00N
IC7Q SN74LS08N
C COMP BLK GEN
J4 CHROMINANCE SC BLK
OFF ON
C BLK-2 J TO 3/3
IC8Q SN74LS74AN
V INH GEN
V INH H TO 3/3
NORMAL/BYPASS 44A DP-24B, CN13-11 IV-4A, CN21-8

SG-68 BOARD **(1/3)**
BOARD NO. 1-608-859-11 & UP
BVT-800PS(FOR SECAM); #70001-
BKT-802(FOR SECAM); #10001-

C-32 (BVT-800PS)
C-10 (BKT-802)

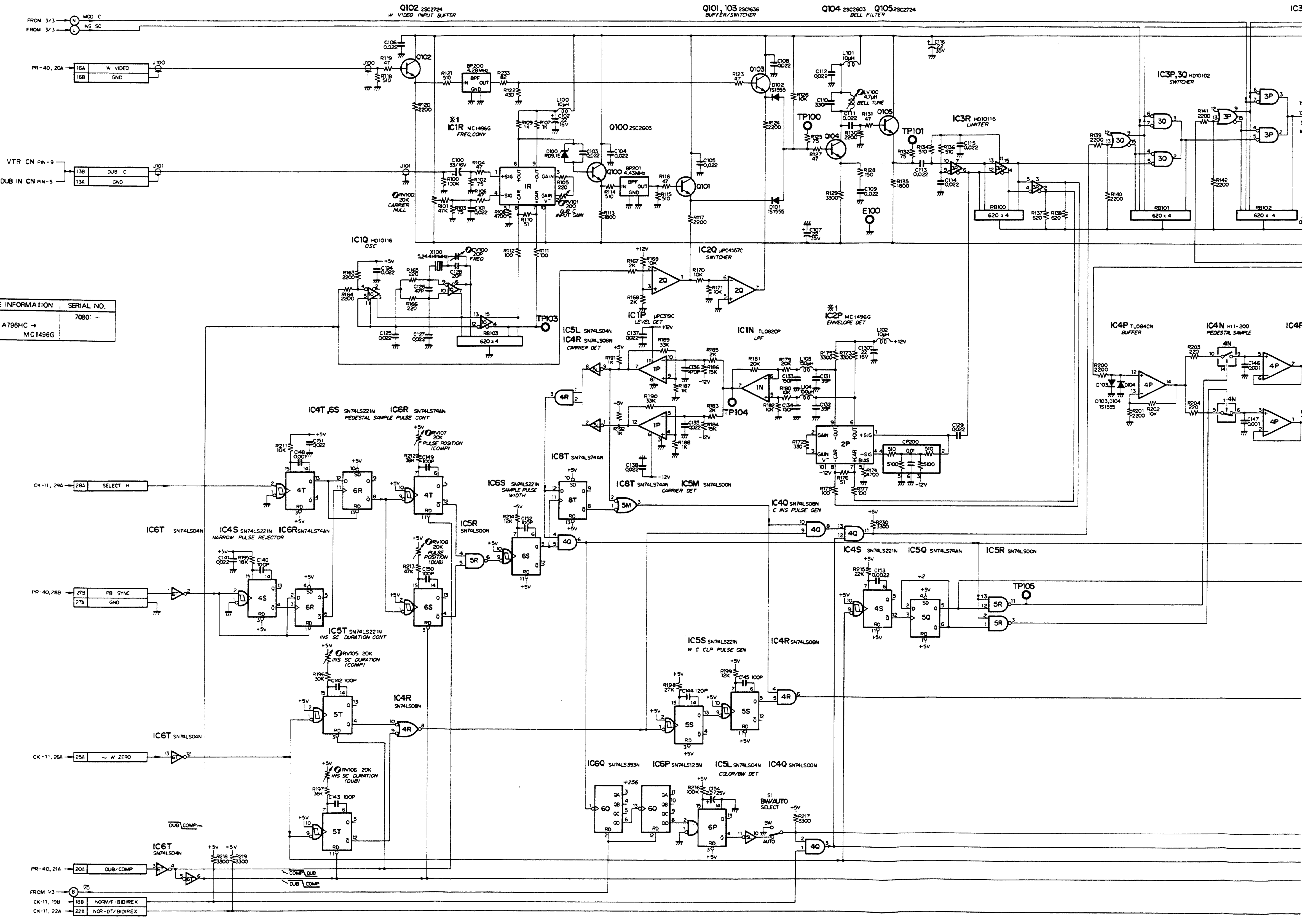
C-33 (BVT-800PS)
C-11 (BKT-802)

1 SG-68 BOARD (2/3); SECAM SYNC GEN

Chroma Separator (for COMP)
Chroma Frequency Up Converter (for DUB)
DR'/DB' Demodulator
SECAM Carrier Detector
Chroma Insert Pulse Generator
Write Odd/Even Generator
Color/BW Detector
Write Chroma Clamp Pulse Generator

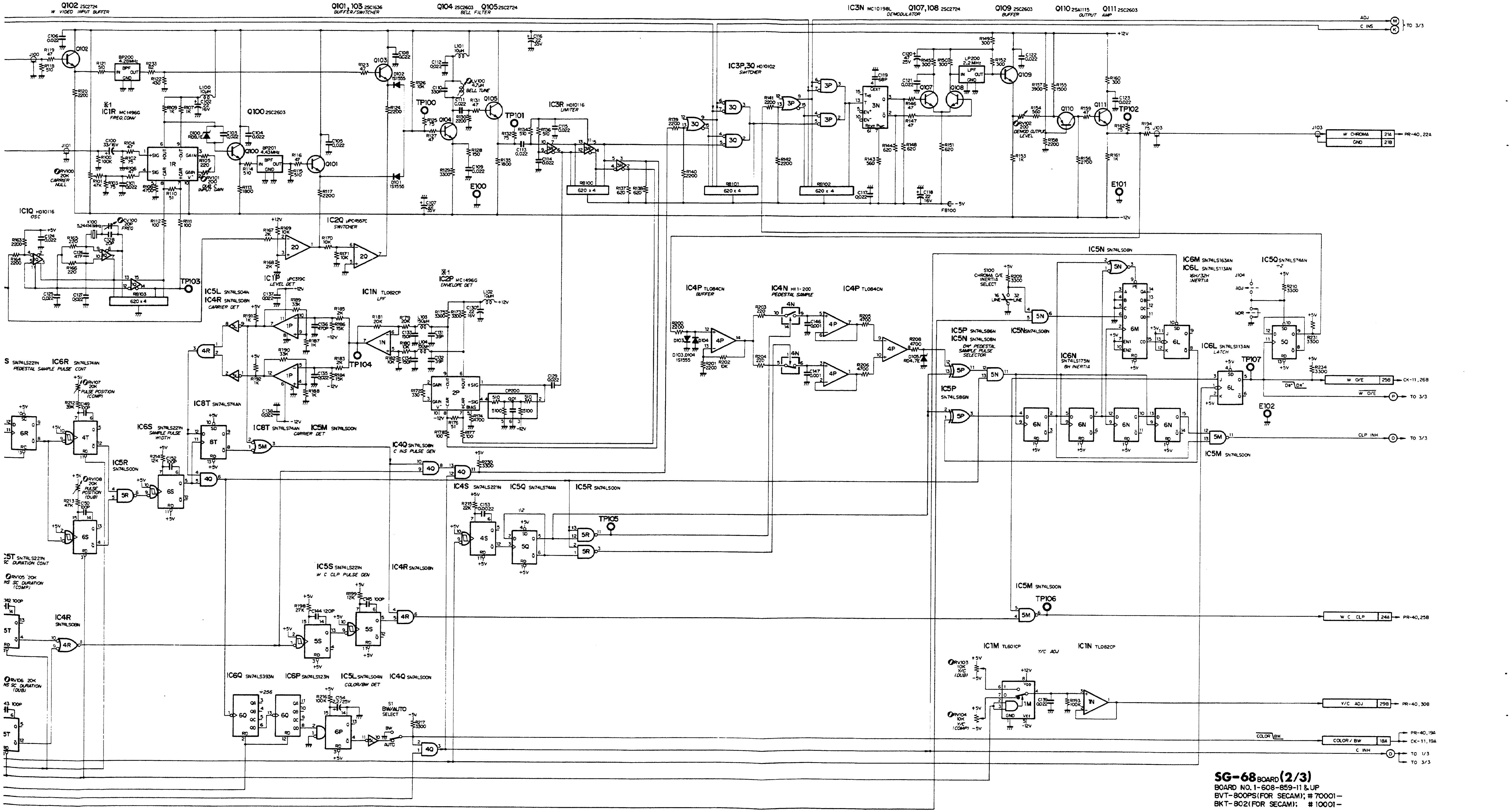
NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	IC1R, 2P 〃A796HC → MC1496G	70801 ~


FROM 3/3
MOD C
INS SC
PR-40, 20A
W VIDEO
GND
VTR CN PIN-9
DUB IN CN PIN-5
DUB C
Q102 2SC2724 W VIDEO INPUT BUFFER
Q101, 103 2SC1636 BUFFER/SWITCHER
Q104 2SC2603 Q105 2SC2724 BELL FILTER
Q100 2SC2603
X1 IC1R MC1496G FREQ.CONV
BP200 4.28MHz
BP201 4.43MHz
RV100 20K CARRIER NULL
RV101 DUB C INPUT GAIN
RV100 4.7μH BELL TUNE
TP100
TP101
TP103
TP104
TP105
E100
IC1Q HD10116 OSC
X100 5.244141MHz
CV100 20P FREQ
IC2Q μPC4557C SWITCHER
IC1P μPC319C LEVEL DET
IC5L SN74LS04N
IC4R SN74LS08N CARRIER DET
IC1N TL082CP LPF
※1 IC2P MC1496G ENVELOPE DET
IC3R HD10116 LIMITER
IC3P, 3Q HD10102 SWITCHER
IC4P TL084CN BUFFER
IC4N HI1-200 PEDESTAL SAMPLE
IC4T, 6S SN74LS221N IC6R SN74LS74AN PEDESTAL SAMPLE PULSE CONT
RV107 20K PULSE POSITION (COMP)
RV108 20K PULSE POSITION (DUB)
IC6S SN74LS221N SAMPLE PULSE WIDTH
IC8T SN74LS74AN
IC8T SN74LS74AN IC5M SN74LS00N CARRIER DET
IC4Q SN74LS08N C INS PULSE GEN
IC6T SN74LS04N
IC4S SN74LS221N IC6R SN74LS74AN NARROW PULSE REJECTOR
IC5R SN74LS00N
IC5T SN74LS221N INS SC DURATION CONT
RV105 20K INS SC DURATION (COMP)
RV106 20K INS SC DURATION (DUB)
IC4R SN74LS08N
IC4S SN74LS221N IC5Q SN74LS74AN IC5R SN74LS00N
IC5S SN74LS221N W C CLP PULSE GEN
IC4R SN74LS08N
IC6Q SN74LS393N IC6P SN74LS123N IC5L SN74LS04N IC4Q SN74LS00N COLOR/BW DET
S1 BW/AUTO SELECT
CK-11, 29A
SELECT H
PR-40, 28B
PB SYNC
CK-11, 26A
~ W ZERO
DUB/COMP
PR-40, 21A
FROM 1/3
CK-11, 19B
NORM/F-BIDIREX
CK-11, 22A
NOR-DT/BIDIREX
IC3

C-37 (BVT-800PS)
C-15 (BKT-802)

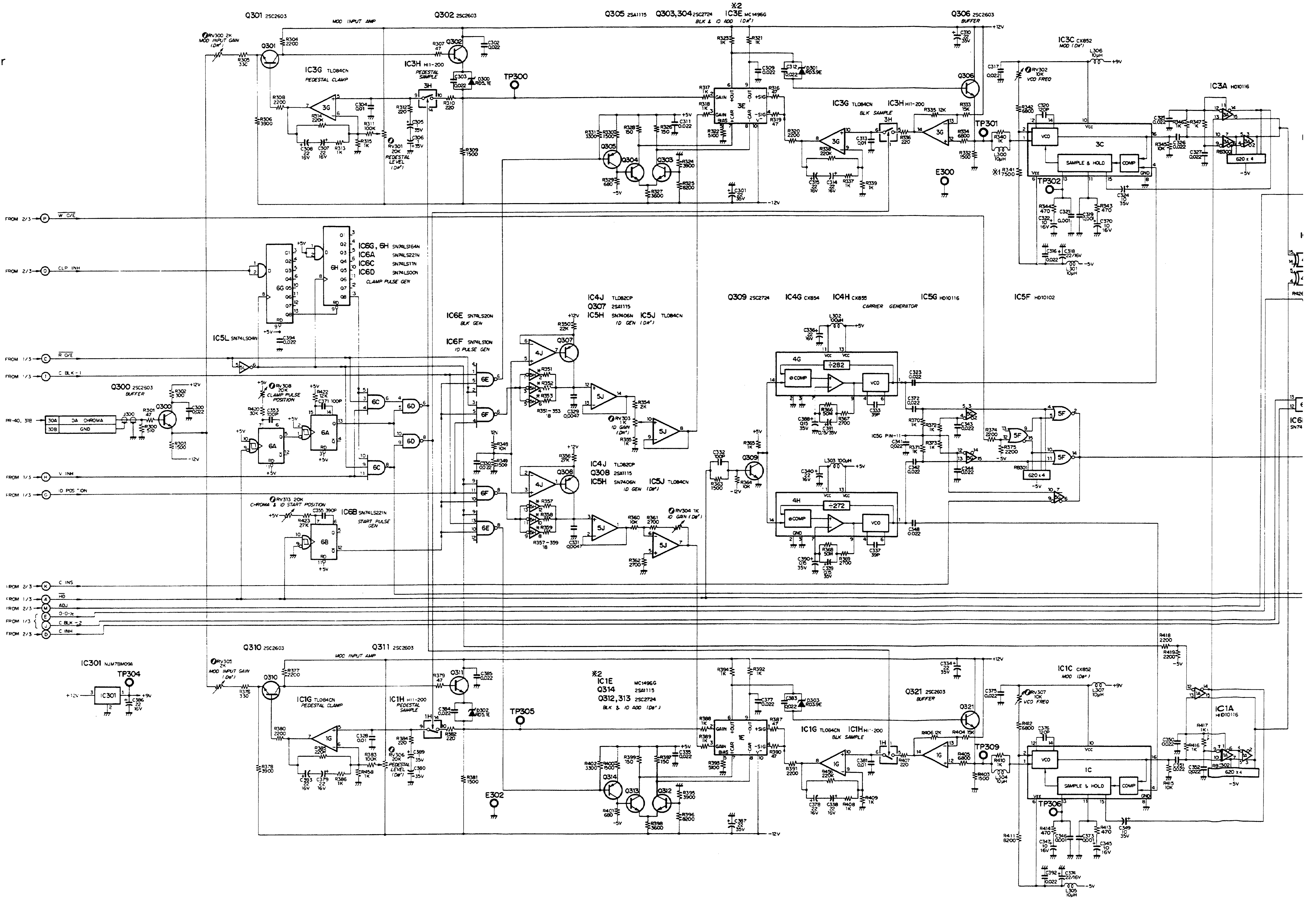
C-38 (BVT-800PS)
C-16 (BKT-802)


Q102 2SC2724 W VIDEO INPUT BUFFER
Q101, 103 2SC1636 BUFFER/SWITCHER
Q104 2SC2603 Q105 2SC2724 BELL FILTER
IC3N MC10198L DEMODULATOR
Q107,108 2SC2724
Q109 2SC2603 BUFFER
Q110 2SA1115 Q111 2SC2603 OUTPUT AMP
IC1R MC1496G FREQ.CONV
Q100 2SC2603
IC3R HD10116 LIMITER
IC3P,3Q HD10102 SWITCHER
IC1Q HD10116 OSC
IC2Q µPC4557C SWITCHER
IC1P µPC319C LEVEL DET
IC1N TL082CP LPF
IC2P MC1496G ENVELOPE DET
IC5L SN74LS04N
IC4R SN74LS08N CARRIER DET
IC4P TL084CN BUFFER
IC4N HI1-200 PEDESTAL SAMPLE
IC4P TL084CN
IC5N SN74LS08N
IC6M SN74LS163AN
IC6L SN74LS113AN 16H/32H INERTIA
IC5Q SN74LS74AN
IC5P SN74LS86N
IC5N SN74LS08N
D/F PEDESTAL SAMPLE PULSE SELECTOR
IC5N SN74LS08N
IC6N SN74LS175N 8H INERTIA
IC6L SN74LS113AN LATCH
IC5P SN74LS86N
IC5M SN74LS00N
IC6R SN74LS74AN PEDESTAL SAMPLE PULSE CONT
RV107 20K PULSE POSITION (COMP)
RV108 20K PULSE POSITION (DUB)
IC8T SN74LS74AN
IC6S SN74LS221N SAMPLE PULSE WIDTH
IC5R SN74LS00N
IC8T SN74LS74AN
IC5M SN74LS00N CARRIER DET
IC4Q SN74LS08N C INS PULSE GEN
IC4S SN74LS221N
IC5Q SN74LS74AN
IC5R SN74LS00N
IC5T SN74LS221N SC DURATION CONT
RV105 20K SC DURATION (COMP)
RV106 20K SC DURATION (DUB)
IC4R SN74LS08N
IC5S SN74LS221N W C CLP PULSE GEN
IC4R SN74LS08N
IC5M SN74LS00N
IC6Q SN74LS393N
IC6P SN74LS123N
IC5L SN74LS04N COLOR/BW DET
IC4Q SN74LS00N
S1 BW/AUTO SELECT
S100 CHROMA O/E INERTIA SELECT
IC1M TL601CP Y/C ADJ
IC1N TL082CP
RV103 10K Y/C (DUB)
RV104 10K Y/C (COMP)
RV100 20K CARRIER NULL
RV101 200 INPUT GAIN
RV102 200 DEMOD OUTPUT LEVEL
CV100 20P FREQ
LV100 4.7µH BELL TUNE
BP200 4.28MHz
BP201 4.43MHz
LP200 2.2MHz
TP100
TP101
TP102
TP103
TP104
TP105
TP106
TP107
E100
E101
E102
J100
J101
J103
J104
+12V
-12V
-5V
FB100
ADJ
C INS
TO 3/3
W CHROMA
GND
PR-40, 22A
W O/E
CK-11, 26B
CLP INH
W C CLP
PR-40, 25B
Y/C ADJ
PR-40, 30B
COLOR/BW
PR-40, 19A
CK-11, 19A
C INH
TO 1/3

SG-68 BOARD (2/3)
BOARD NO. 1-608-859-11 & UP
BVT-800PS(FOR SECAM); #70001-
BKT-802(FOR SECAM); #10001-

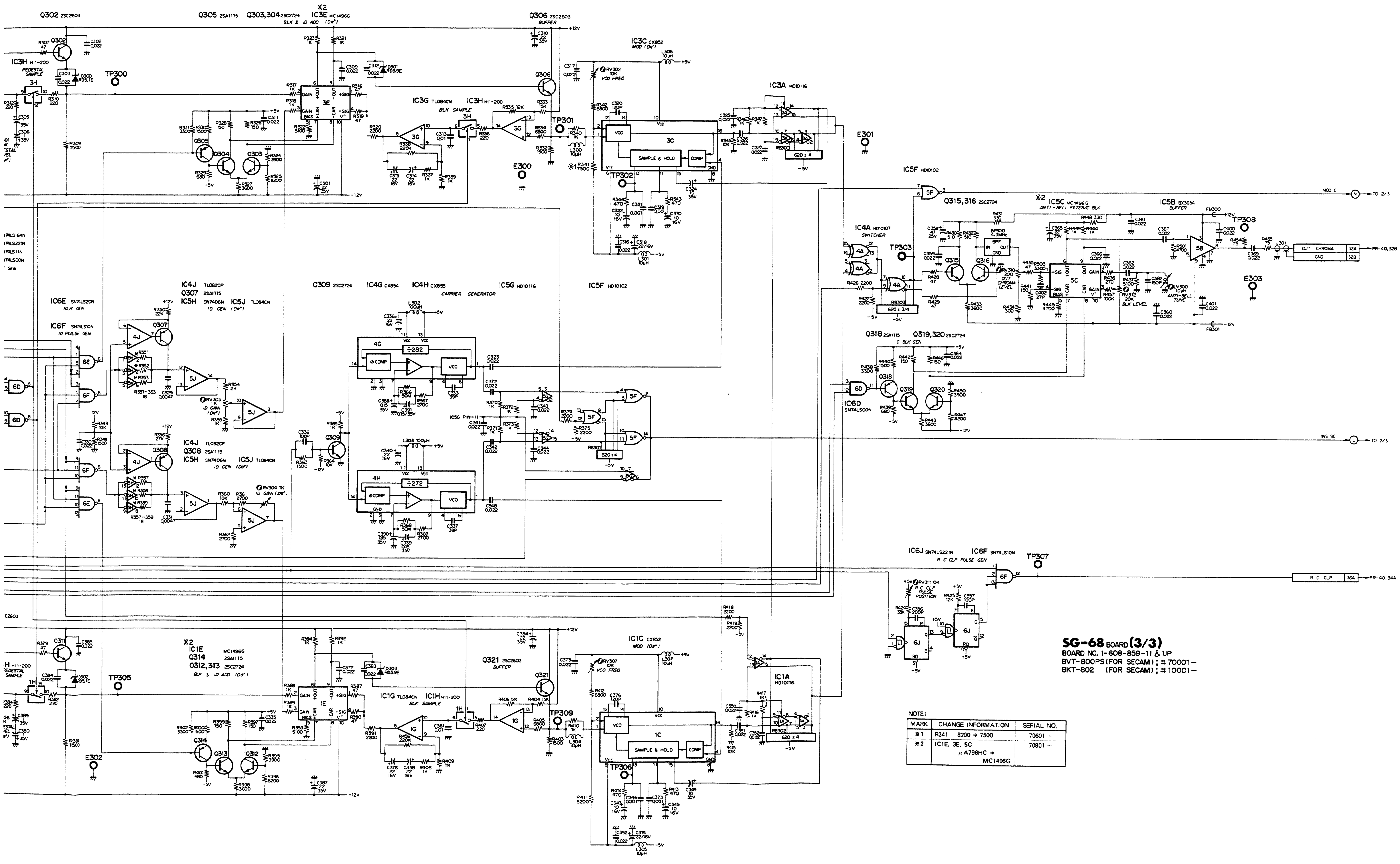
1 SG-68 BOARD (3/3); SECAM SYNC GEN

Chroma Clamper
ID Mixer
Carrier Generator
SECAM Frequency Modulator
Read Chroma Clamp Pulse Generator


Q301 2SC2603 MOD INPUT AMP
Q302 2SC2603
Q305 2SA1115
Q303,304 2SC2724
※2 IC3E MC1496G BLK & ID ADD (D#')
Q306 2SC2603 BUFFER
IC3C CX852 MOD (D#')
IC3A HD10116
IC3G TL084CN PEDESTAL CLAMP
IC3H HI1-200 PEDESTAL SAMPLE
IC3G TL084CN
IC3H HI1-200 BLK SAMPLE
RV300 2K MOD INPUT GAIN (D#')
RV301 20K PEDESTAL LEVEL (D#')
RV302 10K VCO FREQ
TP300
TP301
TP302
E300
VCO
SAMPLE & HOLD
COMP
FROM 2/3 P W C/E
FROM 2/3 D CLP INH
FROM 1/3 C R O/E
FROM 1/3 I C BLK-1
FROM 1/3 H V INH
FROM 1/3 G ID POSITION
FROM 2/3 K C INS
FROM 1/3 A HD
FROM 2/3 M ADJ
FROM 1/3 E D-D-R
FROM 1/3 J C BLK-2
FROM 2/3 B C INH
PR-40, 31B
30A DA CHROMA
30B GND
Q300 2SC2603 BUFFER
IC6G, 6H SN74LS164N
IC6A SN74LS221N
IC6C SN74LS11N
IC6D SN74LS00N
CLAMP PULSE GEN
IC5L SN74LS04N
RV308 20K CLAMP PULSE POSITION
IC6E SN74LS20N BLK GEN
IC6F SN74LS10N ID PULSE GEN
IC4J TL082CP
Q307 2SA1115
IC5H SN7406N ID GEN (D#')
IC5J TL084CN
IC4J TL082CP
Q308 2SA1115
IC5H SN7406N ID GEN (Dr')
IC5J TL084CN
RV303 1K ID GAIN (Dr')
RV304 1K ID GAIN (D#')
RV313 20K CHROMA & ID START POSITION
IC6B SN74LS221N START PULSE GEN
Q309 2SC2724
IC4G CX854
IC4H CX855
CARRIER GENERATOR
IC5G HD10116
IC5F HD10102
÷282
÷272
φCOMP
620 x 4
IC301 NJM78M09A
TP304
Q310 2SC2603
Q311 2SC2603 MOD INPUT AMP
RV305 2K MOD INPUT GAIN (Dr')
IC1G TL084CN PEDESTAL CLAMP
IC1H HI1-200 PEDESTAL SAMPLE
RV306 20K PEDESTAL LEVEL (Dr')
TP305
E302
※2 IC1E MC1496G
Q314 2SA1115
Q312,313 2SC2724
BLK & ID ADD (Dr')
IC1G TL084CN
IC1H HI1-200 BLK SAMPLE
Q321 2SC2603 BUFFER
IC1C CX852 MOD (Dr')
RV307 10K VCO FREQ
IC1A HD10116
TP309
TP306
+12V
-12V
+9V
+5V
-5V

C-43 (BVT-800PS)
C-21 (BKT-802)

C-44 (BVT-800PS)
C-22 (BKT-802)


Q302 2SC2603
Q305 2SA1115
Q303,304 2SC2724
※2
IC3E MC1496G
BLK & ID ADD (Dr')
Q306 2SC2603
BUFFER
IC3H H11-200
PEDESTAL SAMPLE
TP300
IC3G TL084CN
IC3H H11-200
BLK SAMPLE
IC3C CX852
MOD (Dr')
RV302 10K
VCO FREQ
VCO
SAMPLE & HOLD
COMP
TP301
TP302
E300
IC3A HD10116
E301
IC5F HD10102
MOD C
TO 2/3
Q315,316 2SC2724
※2
IC5C MC1496G
ANTI-BELL FILTER(-) BLK
IC5B BX365A
BUFFER
TP308
IC4A HD10107
SWITCHER
TP303
BPF
BP300 4.3MHz
RV301 200
OUT CHROMA LEVEL
RV312 20K
BLK LEVEL
L300 10µH
ANTI-BELL TUNE
OUT CHROMA
GND
32A
32B
PR-40, 32B
E303
IC4J TL082CP
Q307 2SA1115
IC5H SN7406N
IC5J TL084CN
ID GEN (Dr')
IC6E SN74LS20N
BLK GEN
IC6F SN74LS10N
ID PULSE GEN
Q309 2SC2724
IC4G CX854
IC4H CX855
CARRIER GENERATOR
IC5G HD10116
IC5F HD10102
÷282
÷272
φCOMP
RV303 1K
ID GAIN (Db')
RV304 1K
ID GAIN (Dr')
IC4J TL082CP
Q308 2SA1115
IC5H SN7406N
IC5J TL084CN
ID GEN (Db')
Q318 2SA1115
Q319,320 2SC2724
C BLK GEN
IC6D SN74LS00N
INS SC
TO 2/3
IC6J SN74LS221N
IC6F SN74LS10N
R C CLP PULSE GEN
TP307
RV311 10K
R C CLP PULSE POSITION
R C CLP
36A
PR-40, 34A
※2
IC1E MC1496G
Q314 2SA1115
Q312,313 2SC2724
BLK & ID ADD (Db')
IC1H H11-200
PEDESTAL SAMPLE
TP305
E302
IC1G TL084CN
IC1H H11-200
BLK SAMPLE
Q321 2SC2603
BUFFER
TP309
IC1C CX852
MOD (Db')
RV307 10K
VCO FREQ
TP306
IC1A HD10116
620 × 4

SG-68 BOARD (3/3)

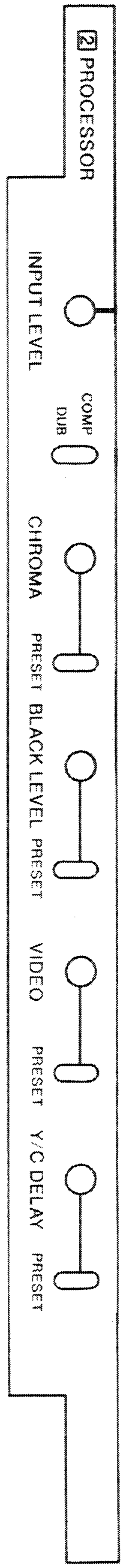
BOARD NO. 1-608-859-11 & UP
BVT-800PS (FOR SECAM) ; # 70001 –
BKT-802 (FOR SECAM) ; # 10001 –

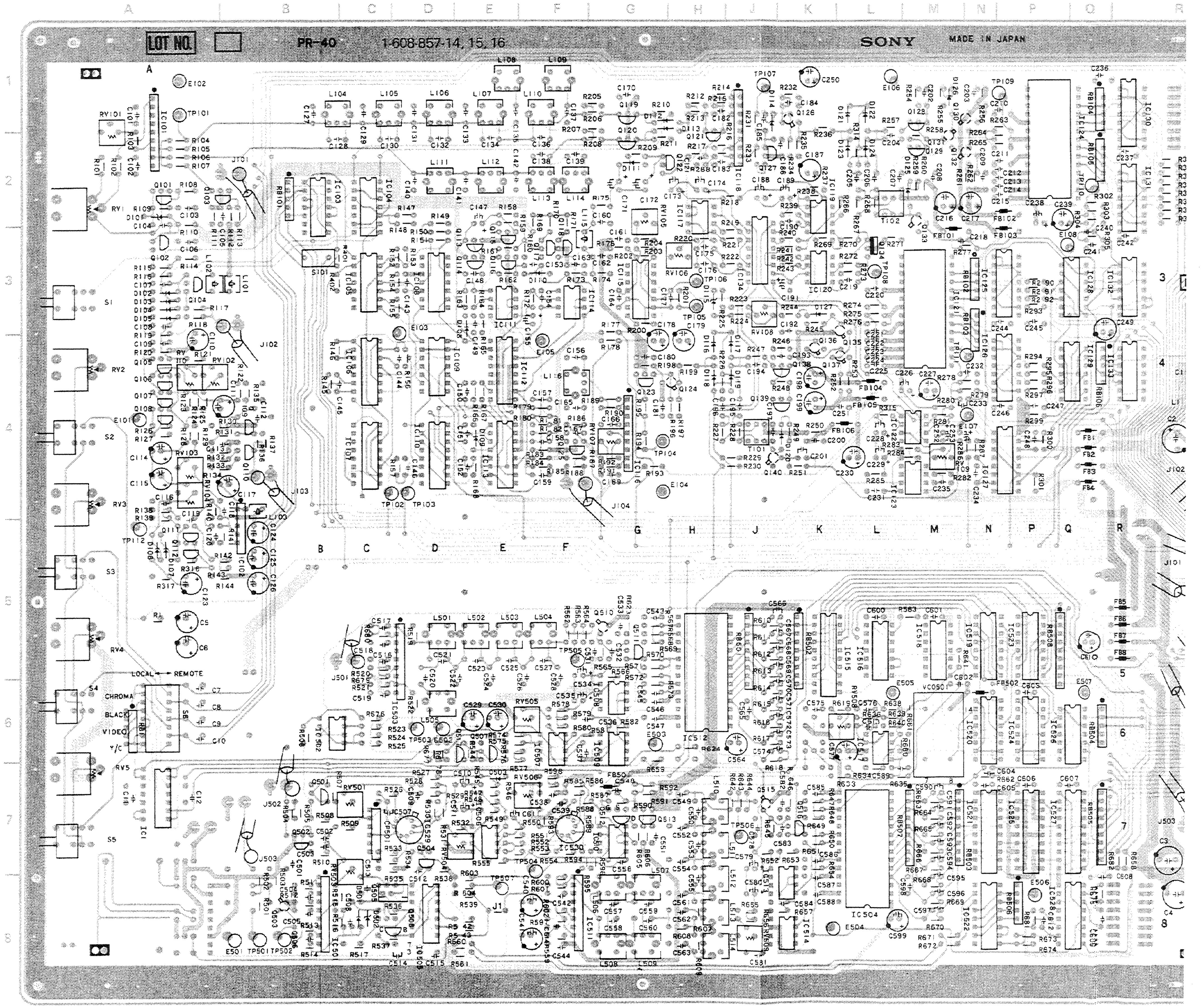
NOTE:

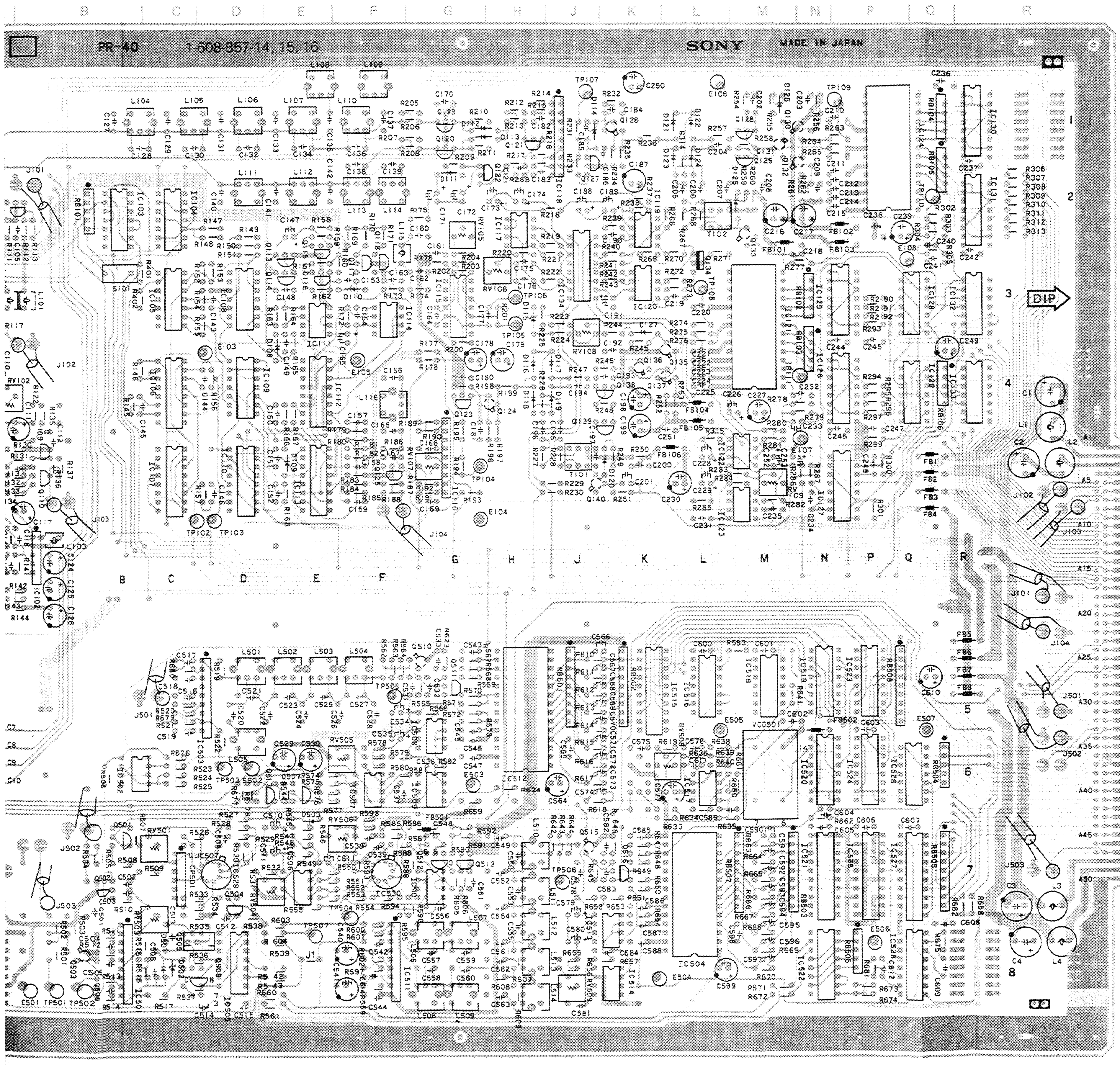
MARK	CHANGE INFORMATION	SERIAL NO.
※1	R341 8200 → 7500	70601 –
※2	IC1E, 3E, 5C µA796HC → MC1496G	70801 –

2 PR-40 BOARD (1-608-857-14, 15, 16)

Component Side


2 PROCESSOR
INPUT LEVEL
COMP
DUB
CHROMA
PRESET
BLACK LEVEL
PRESET
VIDEO
PRESET
Y/C DELAY
PRESET

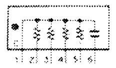

LOT NO.
PR-40
1-608-857-14, 15, 16
SONY
MADE IN JAPAN
A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
1
2
3
4
5
6
7
8
S1
S2
S3
S4
S5
RV1
RV2
RV3
RV4
RV5
LOCAL
REMOTE
CHROMA
BLACK
VIDEO
Y/C
J101
J102
J103
J104
J501
J502
J503



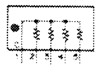
PR-40 (1-608-857-12, 13, 14, 15, 16)

CP501	7C
D101	2A
D102	3A
D103	3A
D104	3A
D105	3A
D106	5A
D107	5A
D108	3E
D109	4E
D110	3F
D111	2G
D112	1G
D113	1G
D114	1J
D115	3H
D116	4H
D117	4J
D118	4H
D119	4J
D120	4K
D121	1L
D122	1L
D123	2L
D124	2L
D125	2M
D126	1M
D127	3K
D501	8C
D502	8C
D503	7E
E101	4A
E102	1A
E103	3D
E104	4G
E105	4F
E106	1L
E107	4N
E108	3Q
E501	8B
E502	6D
E503	6G
E504	8K
E505	6L
E506	8P
E507	6Q
IC1	7A
IC101	1A
IC102	5B
IC103	2B
IC104	2C
IC105	3C
IC106	4C
IC107	4C
IC108	3D
IC109	4D
IC110	4D
IC111	3E
IC112	4E
IC113	4E
IC114	3F
IC115	3G
IC116	4G
IC117	2H
IC118	1J
IC119	2K
IC120	3K
IC121	3M
IC122	4M
IC123	4M
IC124	2P
IC125	3P
IC126	4P
IC127	4P
IC128	3Q
IC129	4Q
IC130	1R
IC131	2R
IC132	3R
IC133	4R
IC134	3J
IC501	8B
IC502	6B
IC503	5D
IC504	7L
IC505	8D
IC506	7E
IC507	6F
IC508	6G
IC509	6G
IC510	7G
IC511	8F
IC512	5H
IC513	8K
IC514	8K
IC515	5K
IC516	5L
IC517	6L
IC518	5M
IC519	5N
IC520	6N
IC521	7N
IC522	8N
IC523	5P
IC524	6P
IC525	7P
IC526	6Q
IC527	7Q
IC528	8Q
IC529	7D
IC530	7F
Q101	2A
Q102	3A
Q103	2A
Q104	3A
Q105	4A
Q106	4A
Q107	4A
Q108	4A
Q109	4B
Q110	4B
Q111	5A
Q112	5A
Q113	3E
Q114	3E
Q115	3E
Q116	3E
Q117	3F
Q118	3F
Q119	1G
Q120	2G
Q121	1H
Q122	2H
Q123	4G
Q124	4H
Q125	4F
Q126	1K
Q127	2J
Q128	1M
Q129	2M
Q130	1N
Q131	1M
Q132	2N
Q133	2M
Q134	3L
Q135	3L
Q136	4K
Q137	4L
Q138	4K
Q139	4K
Q140	4J
Q501	7B
Q502	7B
Q503	8B
Q504	7D
Q505	8C
Q506	8C
Q507	6E
Q510	5G
Q511	6G
Q512	7G
Q513	7G
Q515	7J
Q516	7K
Q517	6E
RB1	6A
RB101	2B
RB102	3N
RB103	3N
RB104	1Q
RB105	2Q
RB106	4Q
RB501	5J
RB502	5K
RB503	7M
RB504	6Q
RB505	7Q
RB506	8P
RB507	7M
RB508	5P
RV1	2A
RV2	4A
RV3	4A
RV4	5A
RV5	7A
RV101	1A
RV102	4A
RV103	4A
RV104	4A
RV105	2G
RV106	3H
RV107	4G
RV108	3J
RV109	4M
RV110	4A
RV501	7C
RV503	7C
RV504	7E
RV505	6F
RV506	7F
RV508	6K
RV509	8J
S1	3A
S2	4A
S3	5A
S4	6A
S5	7A
S6	6A
S101	3B
TP101	1A
TP102	4C
TP103	4D
TP104	4G
TP105	3H
TP106	3H
TP107	1J
TP108	3L
TP109	1P
TP110	2Q
TP111	4N
TP112	5A
TP501	8B
TP502	8B
TP503	6D
TP504	7F
TP505	5F
TP506	7J
TP507	8E
VCO501	6M

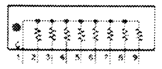
CP501



RB1, 101, 102, 103, 104,
105, 106, 504, 506



R501, 502, 503,
505, 507, 508

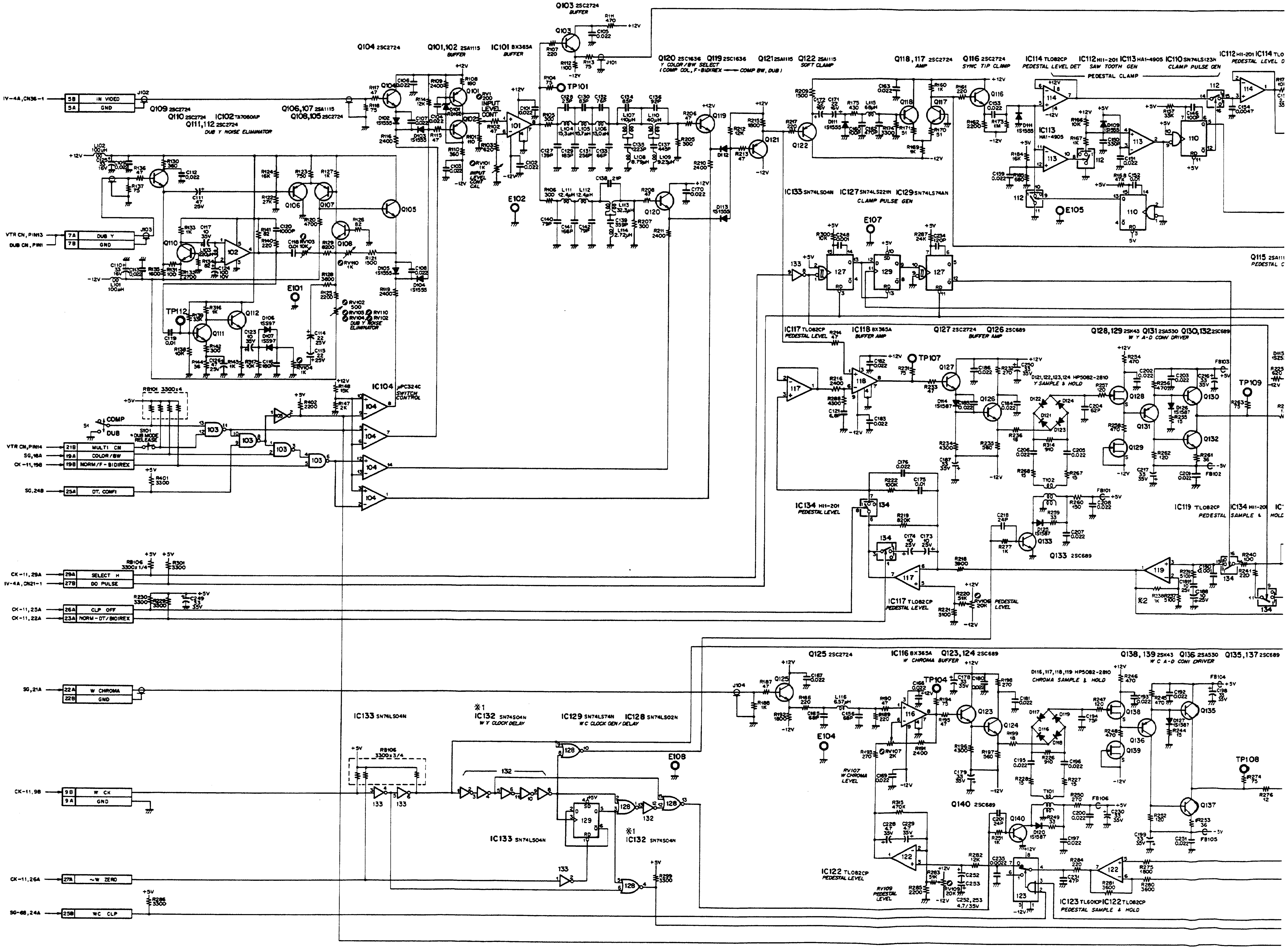


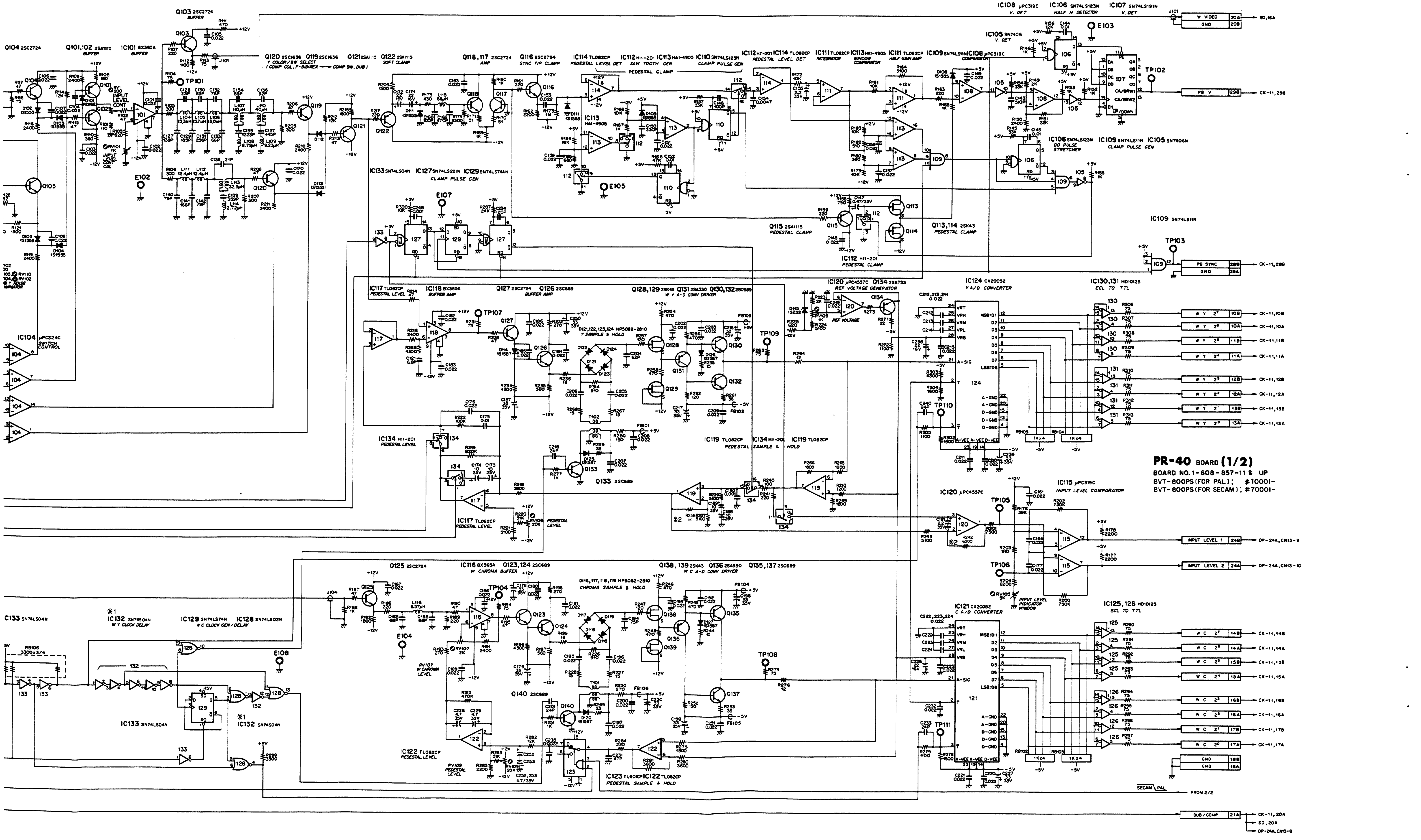
2 PR-40 BOARD (1/2); PROCESSOR

DUB Y Noise Eliminator
Input Level Control
Y Color/BW Select
PB V, PB Sync Generator
Y A-D Converter
Input Level Detector
C A-D Converter

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	IC132 SN74LS04N → SN74S04N	P: 11901 ~ S: 70301 ~
※2	R238 5100 → 1K R242 5100 → 6200	P: 14101 ~ S: 71101 ~


Q103 2SC2724 BUFFER
Q104 2SC2724
Q101,102 2SA1115 BUFFER
IC101 BX365A BUFFER
Q109 2SC2724
Q110 2SC2724
Q111,112 2SC2724
IC102 TA7060AP DUB Y NOISE ELIMINATOR
Q106,107 2SA1115
Q108,105 2SC2724
Q120 2SC1636 Y COLOR/BW SELECT
Q119 2SC1636
Q121 2SA1115
Q122 2SA1115 SOFT CLAMP
Q118,117 2SC2724 AMP
Q116 2SC2724 SYNC TIP CLAMP
IC114 TL082CP PEDESTAL LEVEL DET
IC112 HI1-201
IC113 HA1-4905 SAW TOOTH GEN
IC110 SN74LS123N CLAMP PULSE GEN
PEDESTAL CLAMP
IC133 SN74LS04N
IC127 SN74LS221N
IC129 SN74LS74AN
CLAMP PULSE GEN
IC117 TL082CP PEDESTAL LEVEL
IC118 BX365A BUFFER AMP
Q127 2SC2724
Q126 2SC689 BUFFER AMP
Q128,129 2SK43
Q131 2SA530
Q130,132 2SC689
W Y A-D CONV DRIVER
Y SAMPLE & HOLD
IC134 HI1-201 PEDESTAL LEVEL
IC119 TL082CP PEDESTAL SAMPLE & HOLD
Q133 2SC689
Q115 2SA1115 PEDESTAL C
IC104 μPC324C SWITCH CONTROL
IV-4A, CN36-1
5B IN VIDEO
5A GND
VTR CN, PIN13
DUB CN, PIN1
7A DUB Y
7B GND
VTR CN, PIN14
SG, 18A
CK-11, 19B
21B MULTI CN
19A COLOR/BW
19B NORM/F-BIDIREX
SG, 24B
25A DT. COMP
CK-11, 29A
IV-4A, CN21-1
29A SELECT H
27B DO PULSE
CK-11, 25A
CK-11, 22A
26A CLP OFF
23A NORM-DT/BIDIREX
SG, 21A
22A W CHROMA
22B GND
CK-11, 9B
9B W CK
9A GND
CK-11, 26A
27A ~W ZERO
SG-6B, 24A
25B WC CLP
COMP
DUB
S101 DUB MODE RELEASE
RV101 INPUT LEVEL CONT
RV102, RV103, RV104, RV110 DUB Y NOISE ELIMINATOR
TP101
TP107
TP109
TP112
TP104
TP108
E101
E102
E104
E105
E107
E108
Q125 2SC2724
IC116 BX365A W CHROMA BUFFER
Q123,124 2SC689
Q138,139 2SK43
Q136 2SA530
Q135,137 2SC689
W C A-D CONV DRIVER
D116,117,118,119 HP5082-2810 CHROMA SAMPLE & HOLD
D121,122,123,124 HP5082-2810
RV107 W CHROMA LEVEL
RV108 PEDESTAL LEVEL
RV109 PEDESTAL LEVEL
Q140 2SC689
IC122 TL082CP PEDESTAL LEVEL
IC123 TL060CP
IC122 TL082CP PEDESTAL SAMPLE & HOLD
IC133 SN74LS04N
※1 IC132 SN74S04N W Y CLOCK DELAY
IC129 SN74LS74N W C CLOCK GEN / DELAY
IC128 SN74LS02N
※2



PR-40 BOARD (1/2)

BOARD NO.1-608-857-11 & UP
BVT-800PS(FOR PAL); #10001-
BVT-800PS(FOR SECAM); #70001-

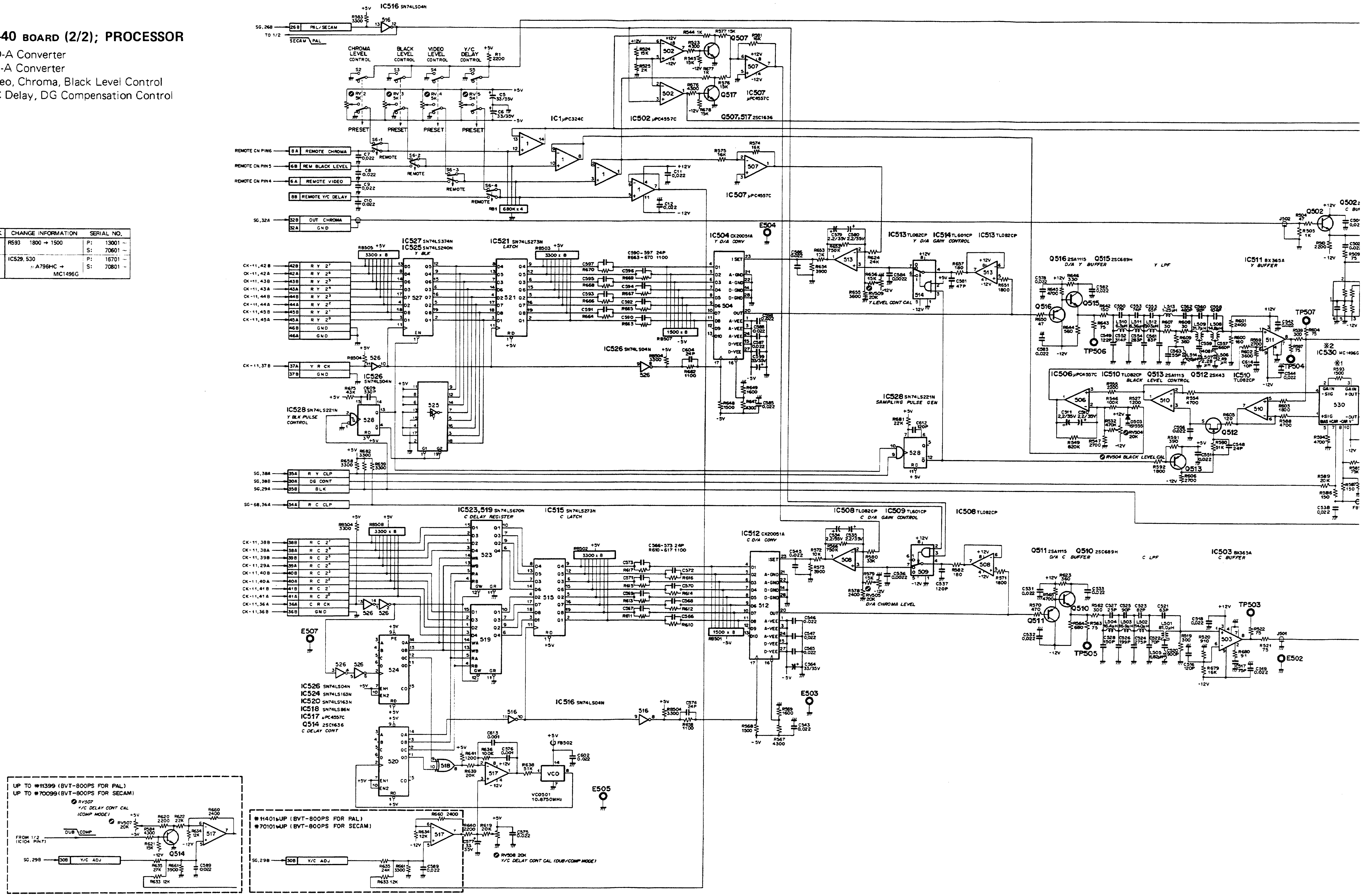
Q103 2SC2724 BUFFER
Q104 2SC2724
Q101,102 2SA1115 BUFFER
IC101 BX363A BUFFER
Q120 2SC1636 Q119 2SC1636 Y COLOR/BW SELECT (COMP COL, F-BIDIREX — COMP BW, DUB)
Q121 2SA1115 Q122 2SA1115 SOFT CLAMP
Q118,117 2SC2724 AMP
Q116 2SC2724 SYNC TIP CLAMP
IC114 TL082CP PEDESTAL LEVEL DET
IC112 H11-201 SAW TOOTH GEN
IC113 HA1-4905
IC110 SN74LS123N CLAMP PULSE GEN
PEDESTAL CLAMP
IC112 H11-201 IC114 TL082CP PEDESTAL LEVEL DET
IC111 TL082CP INTEGRATOR
IC113 HA1-4905 WINDOW COMPARATOR
IC111 TL082CP HALF GAIN AMP
IC109 SN74LS11N IC108 μPC319C COMPARATOR
IC108 μPC319C V. DET
IC106 SN74LS123N HALF H DETECTOR
IC107 SN74LS191N V. DET
IC105 SN7406 V. DET
IC106 SN74LS123N OO PULSE STRETCHER
IC109 SN74LS11N CLAMP PULSE GEN
IC105 SN7406N
IC109 SN74LS11N
J101
W VIDEO 20A
GND 20B
SG,16A
PB V 29B
CK-11,29B
PB SYNC 28B
GND 28A
CK-11,28B
TP101
TP102
TP103
TP104
TP105
TP106
TP107
TP108
TP109
TP110
TP111
E102
E103
E104
E105
E107
E108
INPUT LEVEL CONT
RV101 INPUT LEVEL CONT CAL
RV102 RV110 W Y NOISE IMMUNITY
IC104 μPC324C SWITCH CONTROL
IC133 SN74LS04N IC127 SN74LS221N IC129 SN74LS74AN CLAMP PULSE GEN
Q115 2SA1115 PEDESTAL CLAMP
Q113,114 2SK43 PEDESTAL CLAMP
IC112 H11-201 PEDESTAL CLAMP
IC117 TL082CP PEDESTAL LEVEL
IC118 BX365A BUFFER AMP
Q127 2SC2724 Q126 2SC689 BUFFER AMP
Q128,129 2SK43 Q131 2SA530 Q130,132 2SC689 W Y A-D CONV DRIVER
D121,122,123,124 HP5082-2810 Y SAMPLE & HOLD
IC120 μPC4557C Q134 2SB733 REF VOLTAGE GENERATOR
IC124 CX20052 Y A/D CONVERTER
IC130,131 MD10125 ECL TO TTL
W Y 2⁷ 10B CK-11,10B
W Y 2⁶ 10A CK-11,10A
W Y 2⁵ 11B CK-11,11B
W Y 2⁴ 11A CK-11,11A
W Y 2³ 12B CK-11,12B
W Y 2² 12A CK-11,12A
W Y 2¹ 13B CK-11,13B
W Y 2⁰ 13A CK-11,13A
IC134 H11-201 PEDESTAL LEVEL
Q133 2SC689
IC119 TL082CP IC134 H11-201 IC119 TL082CP PEDESTAL SAMPLE & HOLD
IC117 TL082CP PEDESTAL LEVEL
RV106 PEDESTAL LEVEL
IC120 μPC4557C
IC115 μPC319C INPUT LEVEL COMPARATOR
INPUT LEVEL 1 24B DP-24A,CN13-9
INPUT LEVEL 2 24A DP-24A,CN13-10
RV105 INPUT LEVEL INDICATOR WINDOW
Q125 2SC2724
IC116 BX365A W CHROMA BUFFER
Q123,124 2SC689
D116,117,118,119 HP5082-2810 CHROMA SAMPLE & HOLD
Q138,139 2SK43 Q136 2SA530 Q135,137 2SC689 W C A-D CONV DRIVER
J104
IC133 SN74LS04N
※1 IC132 SN7404N W Y CLOCK DELAY
IC129 SN74LS74N W C CLOCK GEN/DELAY
IC128 SN74LS02N
IC133 SN74LS04N
※1 IC132 SN7404N
RV107 W CHROMA LEVEL
Q140 2SC689
IC122 TL082CP PEDESTAL LEVEL
RV109 PEDESTAL LEVEL
IC123 TL601CP IC122 TL082CP PEDESTAL SAMPLE & HOLD
IC121 CX20052 C A/D CONVERTER
IC125,126 MD10125 ECL TO TTL
W C 2⁷ 14B CK-11,14B
W C 2⁶ 14A CK-11,14A
W C 2⁵ 15B CK-11,15B
W C 2⁴ 15A CK-11,15A
W C 2³ 16B CK-11,16B
W C 2² 16A CK-11,16A
W C 2¹ 17B CK-11,17B
W C 2⁰ 17A CK-11,17A
GND 18B
GND 18A
SECAM \ PAL
FROM 2/2
DUB/COMP 21A
CK-11,20A
SG,20A
DP-24A,CN13-8

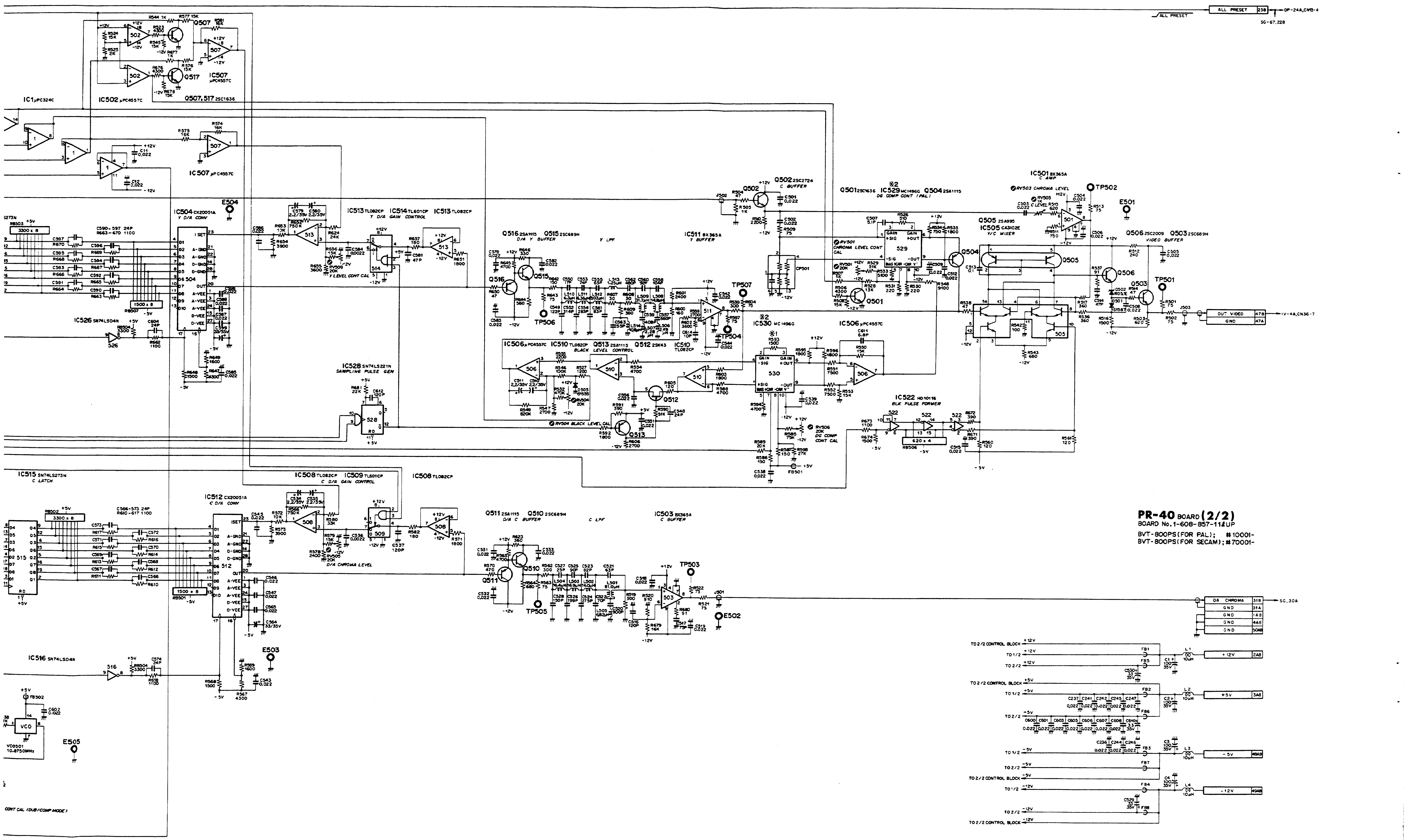
2 PR-40 BOARD (2/2); PROCESSOR

Y D-A Converter
C D-A Converter
Video, Chroma, Black Level Control
Y/C Delay, DG Compensation Control

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	R593 1800 → 1500	P: 13001 ~ S: 70601 ~
※2	IC529, 530 μA796HC → MC1496G	P: 16701 ~ S: 70801 ~


IC516 SN74LS04N
PAL/SECAM
CHROMA LEVEL CONTROL
BLACK LEVEL CONTROL
VIDEO LEVEL CONTROL
Y/C DELAY CONTROL
PRESET
REMOTE
REMOTE CHROMA
REM BLACK LEVEL
REMOTE VIDEO
REMOTE Y/C DELAY
OUT CHROMA
GND
IC1 μPC324C
IC502 μPC4557C
Q507,517 2SC1636
IC507 μPC4557C
IC527 SN74LS374N
IC525 SN74LS240N
Y BLK
IC521 SN74LS273N
LATCH
IC504 CX20051A
Y D/A CONV
IC513 TL082CP
IC514 TL601CP
Y D/A GAIN CONTROL
Y LEVEL CONT CAL
Q516 2SA1115
Q515 2SC689H
D/A Y BUFFER
Y LPF
IC511 BX365A
Y BUFFER
IC530 MC1496G
IC506 μPC4557C
IC510 TL082CP
Q513 2SA1115
Q512 2SK43
BLACK LEVEL CONTROL
RV504 BLACK LEVEL CAL
IC526 SN74LS04N
IC528 SN74LS221N
Y BLK PULSE CONTROL
SAMPLING PULSE GEN
R Y CLP
DG CONT
BLK
R C CLP
IC523,519 SN74LS670N
C DELAY REGISTER
IC515 SN74LS273N
C LATCH
IC512 CX20051A
C D/A CONV
IC508 TL082CP
IC509 TL601CP
C D/A GAIN CONTROL
D/A CHROMA LEVEL
Q511 2SA1115
Q510 2SC689H
D/A C BUFFER
C LPF
IC503 BX365A
C BUFFER
IC526 SN74LS04N
IC524 SN74LS163N
IC520 SN74LS163N
IC518 SN74LS86N
IC517 μPC4557C
Q514 2SC1636
C DELAY CONT
VCO
VCO501 10.6750MHz
TP503
TP504
TP505
TP506
TP507
E502
E503
E504
E505
E507
UP TO #11399 (BVT-800PS FOR PAL)
UP TO #70099(BVT-800PS FOR SECAM)
RV507 Y/C DELAY CONT CAL (COMP MODE)
FROM 1/2 (IC104 PIN7)
DUB COMP
Y/C ADJ
#11401&UP (BVT-800PS FOR PAL)
#70101&UP (BVT-800PS FOR SECAM)
RV508 20K Y/C DELAY CONT CAL (DUB/COMP MODE)

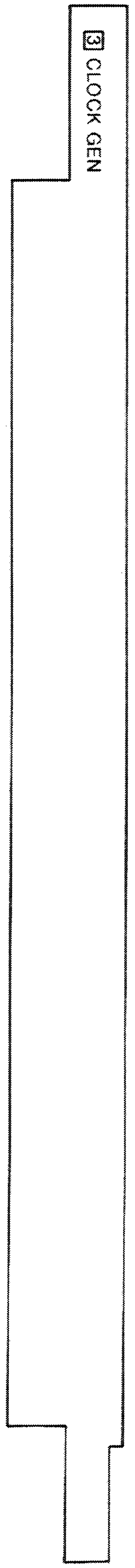

ALL PRESET
SG-67,228
OP-24A,CN13-4
IC1 μPC324C
IC502 μPC4557C
Q507,517 2SC1636
IC507 μPC4557C
Q507
Q517
IC504 CX20051A
Y D/A CONV
E504
IC513 TL082CP
IC514 TL601CP
Y D/A GAIN CONTROL
Y LEVEL CONT CAL
IC526 SN74LS04N
IC528 SN74LS221N
SAMPLING PULSE GEN
Q516 2SA1115
Q515 2SC689H
D/A Y BUFFER
Y LPF
TP506
TP507
TP504
IC511 BX365A
Y BUFFER
IC506 μPC4557C
IC510 TL082CP
Q513 2SA1115
Q512 2SK43
BLACK LEVEL CONTROL
RV504 BLACK LEVEL CAL
IC530 MC1496G
IC506 μPC4557C
Q502 2SC2724
C BUFFER
Q501 2SC1636
IC529 MC1496G
Q504 2SA1115
DC COMP CONT (PAL)
RV501 CHROMA LEVEL CONT CAL
RV506 DC COMP CONT CAL
IC501 BX365A
C AMP
RV503 CHROMA LEVEL
TP502
E501
Q505 2SA995
IC505 CA3102E
Y/C MIXER
Q506 2SC2009
Q503 2SC689H
VIDEO BUFFER
TP501
OUT VIDEO
GND
1V-4A,CN36-7
IC522 HD10116
BLK PULSE FORMER
IC515 SN74LS273N
C LATCH
IC512 CX20051A
C D/A CONV
IC508 TL082CP
IC509 TL601CP
C D/A GAIN CONTROL
D/A CHROMA LEVEL
Q511 2SA1115
Q510 2SC689H
D/A C BUFFER
C LPF
IC503 BX365A
C BUFFER
TP505
TP503
E502
E503
DA CHROMA
SG,30A
IC516 SN74LS04N
VCO
VCO501 10.8750MHz
E505
CONT CAL (DUB/COMP MODE)
TO 2/2 CONTROL BLOCK
TO 1/2
TO 2/2
+12V
+5V
-5V
-12V

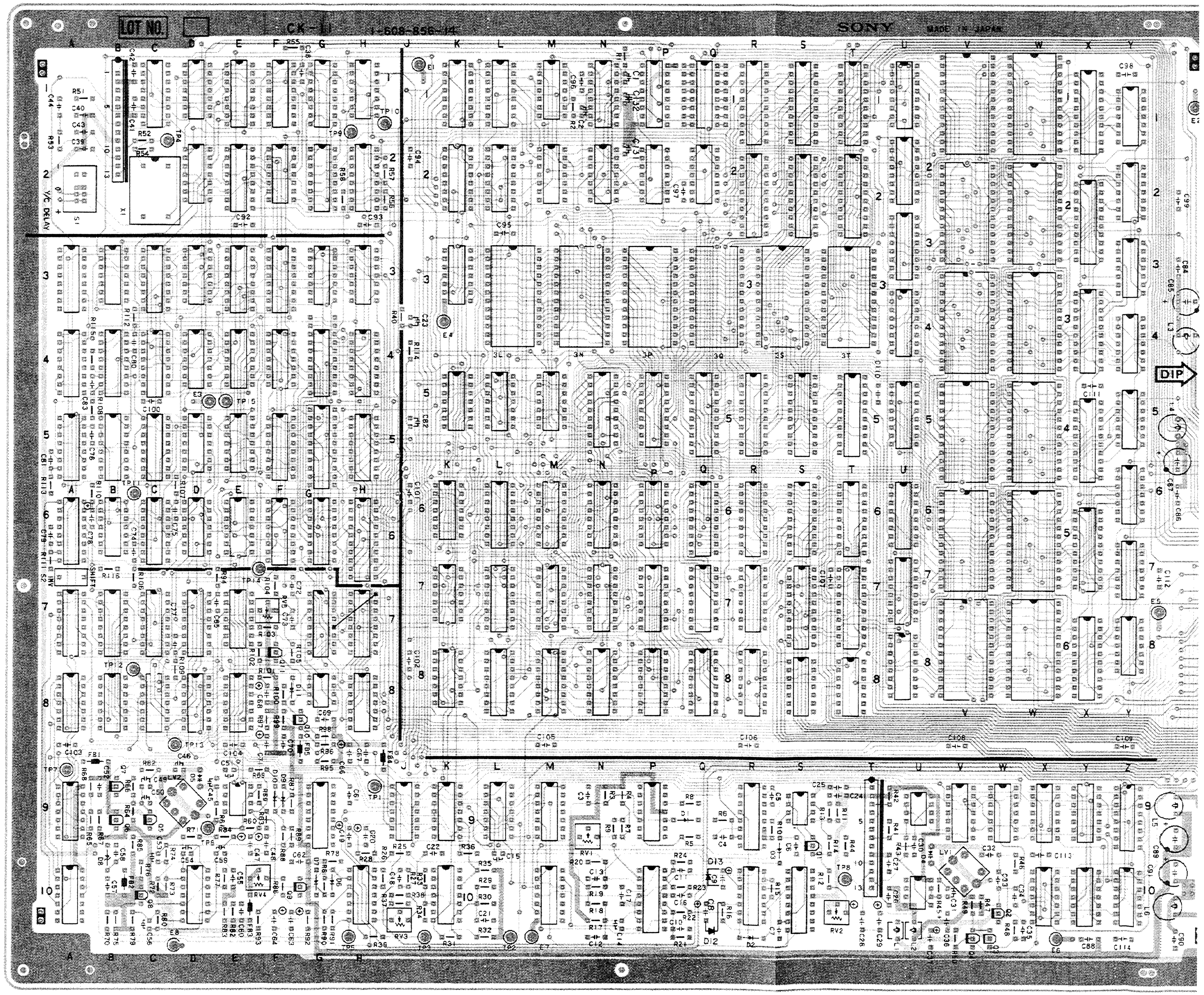
PR-40 BOARD **(2/2)**
BOARD No.1-608-857-11&UP

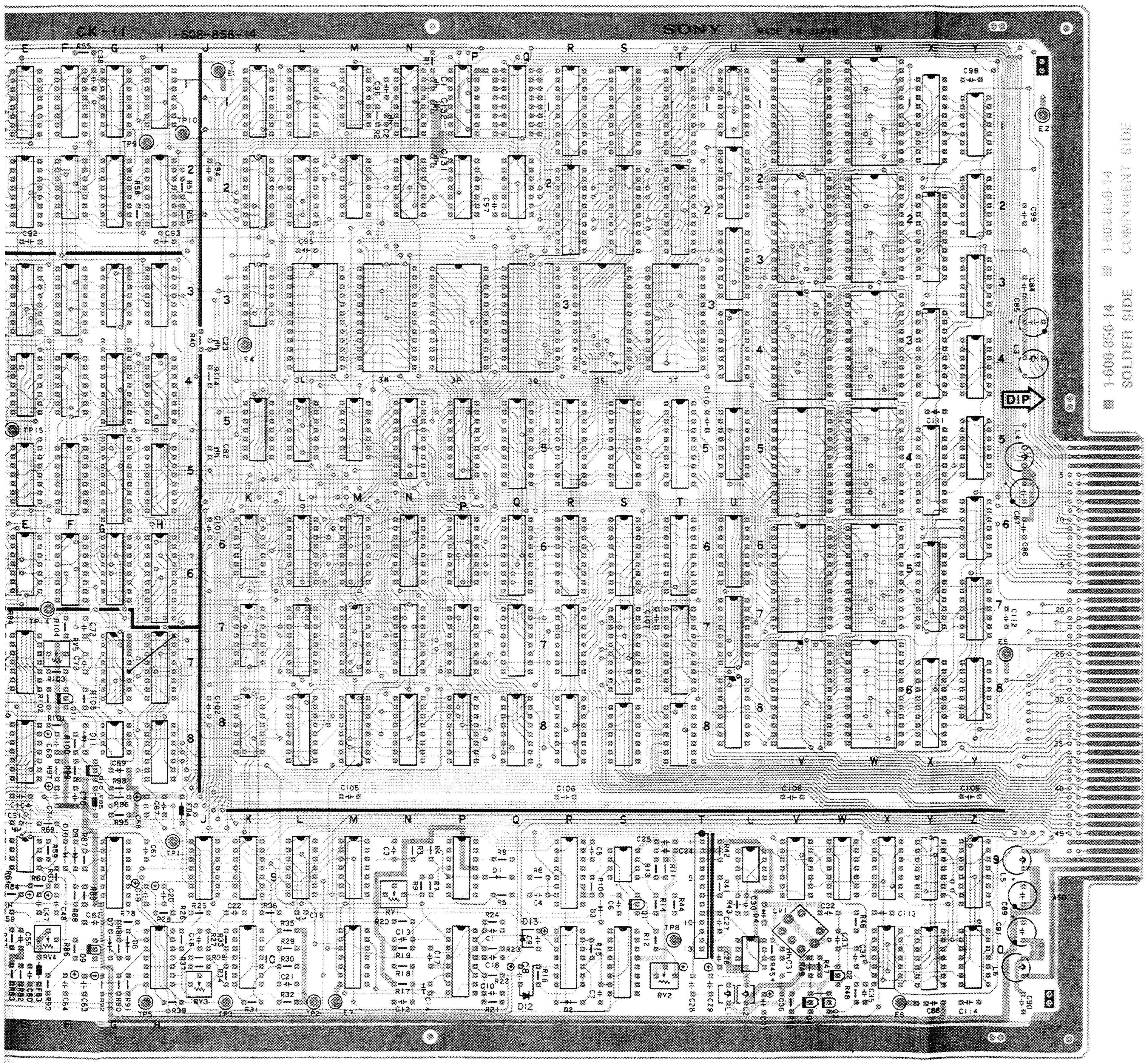
BVT-800PS(FOR PAL); #10001-
BVT-800PS(FOR SECAM); #70001-

3 CK-11 BOARD (1-608-856-14)

Component Side




LOT NO.
CK-11 1-608-856-14
SONY
MADE IN JAPAN
DIP
V/C DELAY
S1
X1



CK-11 (1-608-856-11 to 14)

BVT-800PS

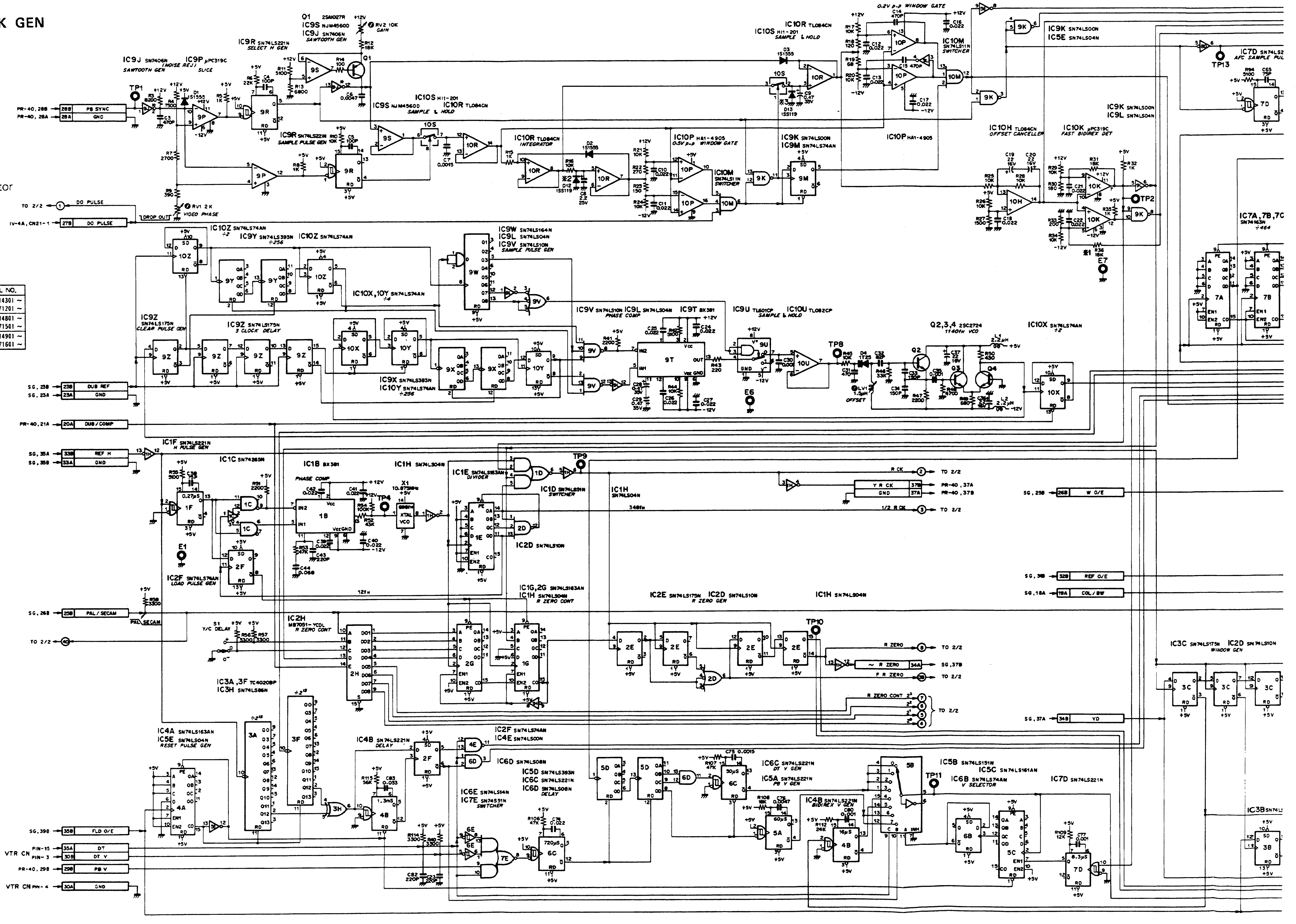
D1	9Q
D2	10R
D3	9S
D4	9U
D5	9D
D6	10G
D7	10G
D8	10B
D9	9F
D10	9F
D11	8F
D12	10Q
D13	10Q
E1	1J
E2	1Z
E3	4D
E4	4K
E5	8Y
E6	10X
E7	10M
E8	10D
IC1B	
IC1C	
IC1D	
IC1E	
IC1F	
IC1G	
IC1H	
IC1K	
IC1L	
IC1M	
IC1N	
IC1P	
IC1R	
IC1S	
IC1T	
IC1U	
IC1V	
IC1W	
IC1X	
IC1Y	
IC2D	
IC2E	
IC2F	
IC2G	
IC2K	
IC2L	
IC2M	
IC2N	
IC2P	
IC2Q	
IC2R	
IC2S	
IC2T	
IC2U	
IC2V	
IC2W	
IC2X	
IC2Y	
IC3A	
IC3B	
IC3C	
IC3D	
IC3E	
IC3F	
IC3G	
IC3H	
IC3K	
IC3L	
IC3N	
IC3P	
IC3Q	
IC3S	
IC3T	
IC3U	
IC3V	
IC3W	
IC3X	
IC3Y	
IC4A	
IC4B	
IC4C	
IC4D	
IC4E	
IC4F	
IC4G	
IC4H	
IC4U	
IC4V	
IC4W	
IC4X	
IC4Y	
IC5A	
IC5B	
IC5C	
IC5D	
IC5E	
IC5F	
IC5G	
IC5H	
IC5K	
IC5L	
IC5M	
IC5N	
IC5P	
IC5Q	
IC5R	
IC5S	
IC5T	
IC5U	
IC5V	
IC5W	
IC5X	
IC5Y	
IC6A	
IC6B	
IC6C	
IC6D	
IC6E	
IC6F	
IC6G	
IC6H	
IC6K	
IC6L	
IC6M	
IC6N	
IC6P	
IC6Q	
IC6R	
IC6S	
IC6T	
IC6U	
IC6V	
IC6W	
IC6X	
IC6Y	
IC7A	
IC7B	
IC7C	
IC7D	
IC7E	
IC7G	
IC7H	
IC7K	
IC7L	
IC7M	
IC7N	
IC7P	
IC7Q	
IC7R	
IC7S	
IC7T	
IC7U	
IC7Y	
IC8A	
IC8B	
IC8C	
IC8D	
IC8E	
IC8G	
IC8H	
IC8K	
IC8L	
IC8M	
IC8N	
IC8P	
IC8Q	
IC8R	
IC8S	
IC8T	
IC8U	
IC8Y	
IC9A	
IC9E	
IC9G	
IC9J	
IC9K	
IC9L	
IC9M	
IC9P	
IC9R	
IC9S	
IC9T	
IC9U	
IC9V	
IC9W	
IC9X	
IC9Y	
IC9Z	
IC10A	
IC10D	
IC10H	
IC10K	
IC10M	
IC10P	
IC10R	
IC10S	
IC10U	
IC10X	
IC10Y	
IC10Z	
LV1	10V
LV2	9D
Q1	9S
Q2	10W
Q3	10W
Q4	10V
Q5	9C
Q6	9B
Q7	9B
Q8	10C
Q9	10F
Q10	8F
Q11	7F
RV1	9M
RV2	10T
RV3	10J
RV4	10E
RV5	7E
S1	2A
S2	6A
TP1	9H
TP2	10L
TP3	10J
TP4	1C
TP5	10H
TP6	9D
TP7	9A
TP8	10T
TP9	1H
TP10	1J
TP11	5B
TP12	7B
TP13	8D
TP14	6E
TP15	4E
X1	2C

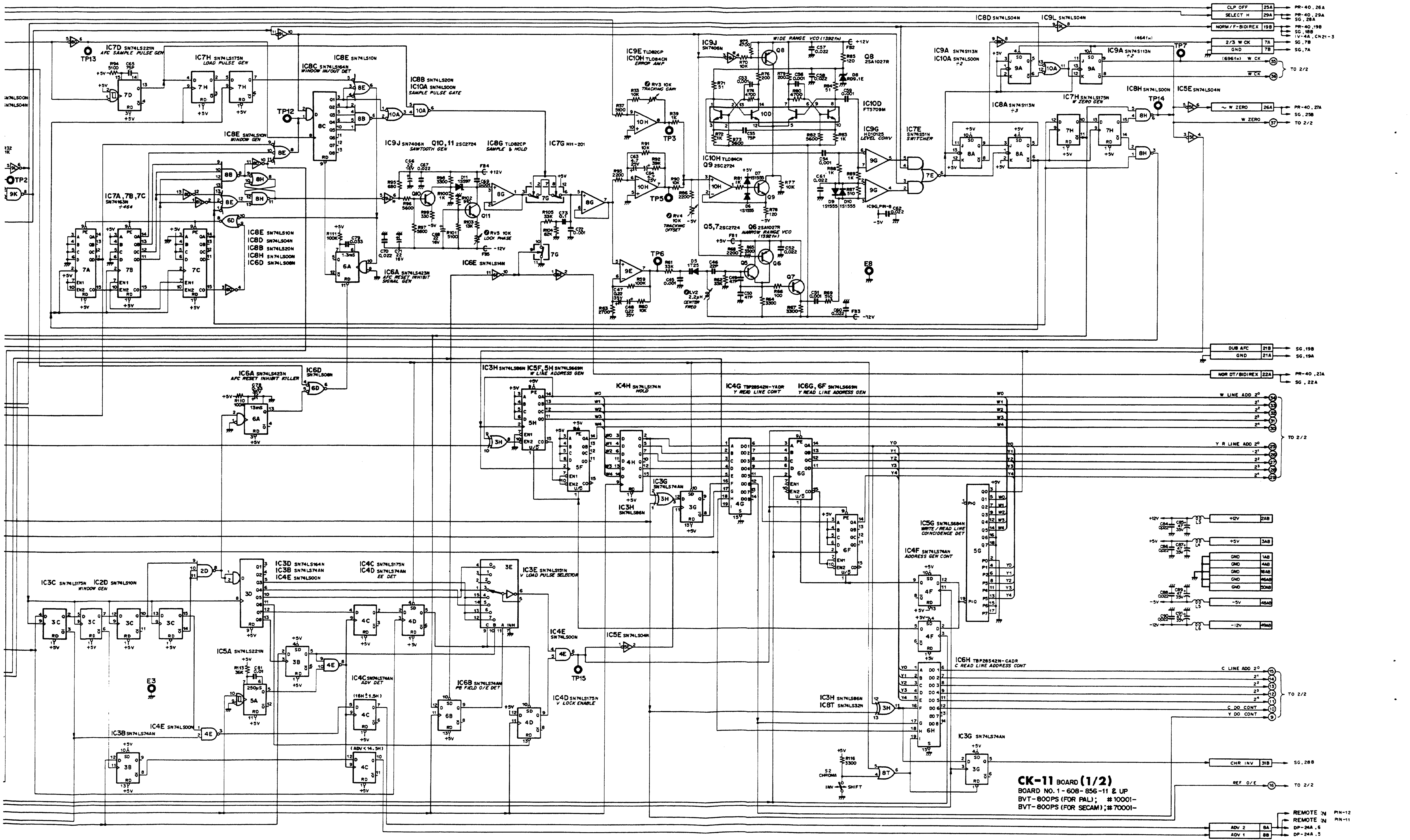
3 CK-11 BOARD (1/2); CLOCK GEN

Select H Generator
AFC (Write Clock Generator)
Write Zero Generator
Read Clock Generator
Read Zero Generator
W/R Line Address Generator
V Timing Selector
Bidirex Detector
Fast Bidirex Detector
EE/Advance Detector
Chroma Up Conv Carrier Generator

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	R36 13K → 18K	P: 14301 ~ S: 71201 ~
※2	ADDED D12 1SS119	P: 14801 ~ S: 71501 ~
※3	ADDED D13 1SS119	P: 14901 ~ S: 71601 ~

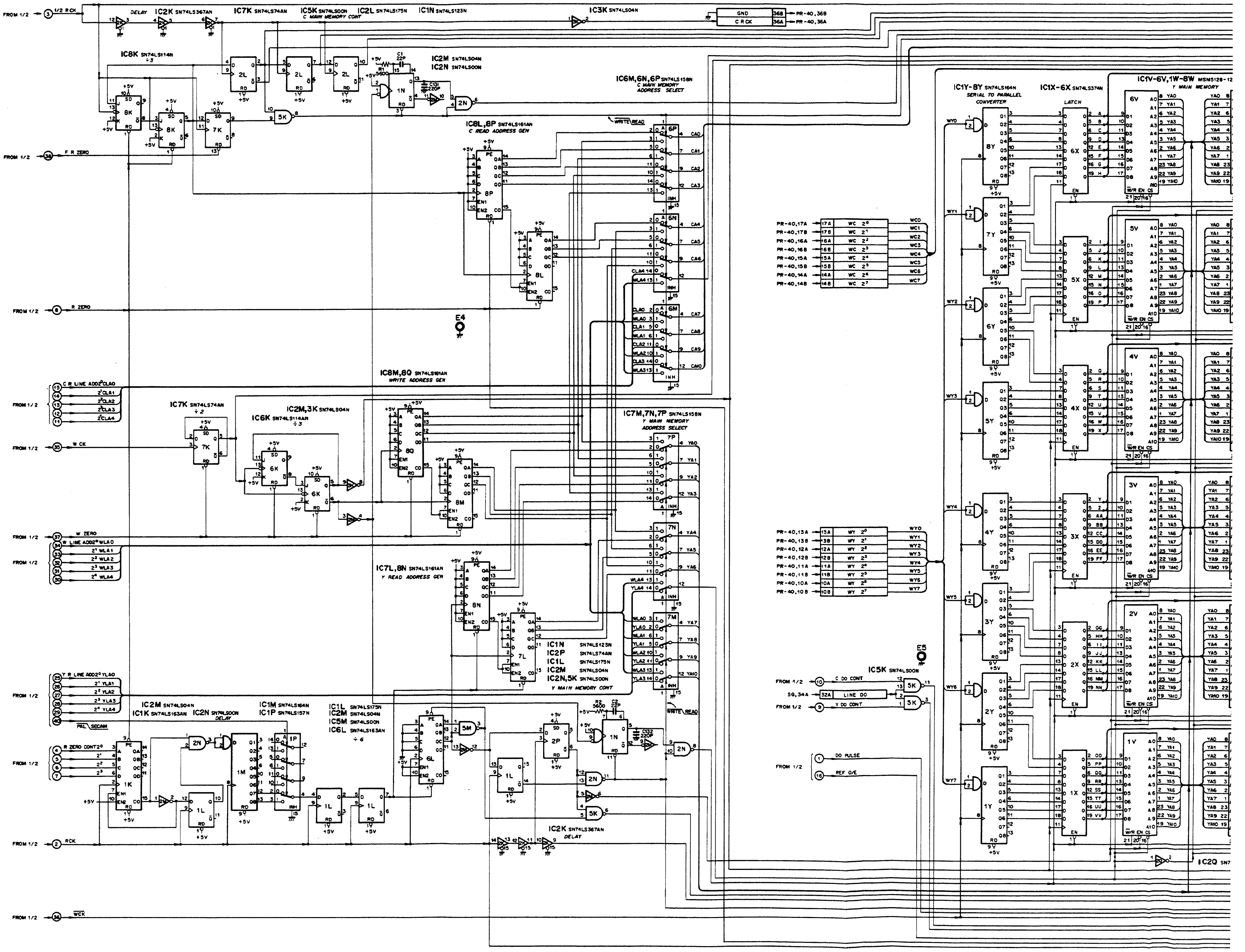

PB SYNC
DO PULSE
DROP OUT
VIDEO PHASE
DUB REF
DUB/COMP
REF H
PAL/SECAM
FLD O/E
DT
DT V
PB V
GND
IC9J SN7406N SAWTOOTH GEN
IC9P μPC319C (NOISE REJ) SLICE
IC9R SN74LS221N SELECT H GEN
IC9S NJM4560D
IC10S HI1-201 SAMPLE & HOLD
IC10R TL084CN INTEGRATOR
IC10P HA1-4905 0.5V p-p WINDOW GATE
IC10M SN74LS11N SWITCHER
IC9K SN74LS00N
IC9M SN74LS74AN
IC10H TL084CN OFFSET CANCELLER
IC10K μPC319C FAST BIDIREX DET
0.2V p-p WINDOW GATE
IC10Z SN74LS74AN
IC9Y SN74LS393N
IC9W SN74LS164N
IC9L SN74LS04N
IC9V SN74LS10N SAMPLE PULSE GEN
IC9Z SN74LS175N CLEAR PULSE GEN
IC10X, 10Y SN74LS74AN
IC9X SN74LS393N
IC9T BX381 PHASE COMP
IC9U TL601CP
IC10U TL082CP SAMPLE & HOLD
Q2,3,4 2SC2724 11401H VCO
OFFSET
IC1F SN74LS221N H PULSE GEN
IC1C SN74265N
IC1B BX381 PHASE COMP
IC1H SN74LS04N
X1 10.875MHz XTAL VCO
IC1E SN74LS163AN DIVIDER
IC1D SN74LS51N SWITCHER
IC2D SN74LS10N
IC2F SN74LS74AN LOAD PULSE GEN
IC1G, 2G SN74LS163AN
R ZERO CONT
IC2H MB7051-YCDL R ZERO CONT
S1 Y/C DELAY
IC2E SN74LS175N
IC2D SN74LS10N R ZERO GEN
R CK
Y R CK
1/2 R CK
W O/E
REF O/E
COL/BW
R ZERO
F R ZERO
VD
IC3A, 3F TC4020BP
IC3H SN74LS86N
IC4A SN74LS163AN
IC5E SN74LS04N RESET PULSE GEN
IC4B SN74LS221N DELAY
IC2F SN74LS74AN
IC4E SN74LS00N
IC6D SN74LS08N
IC5D SN74LS393N
IC6C SN74LS221N
IC6E SN74LS14N
IC7E SN74S51N SWITCHER
IC6C SN74LS221N DT V GEN
IC5A SN74LS221N PB V GEN
IC4B SN74LS221N BIDIREX V GEN
IC5B SN74LS151N
IC5C SN74LS161AN
IC6B SN74LS74AN V SELECTOR
IC7D SN74LS221N
IC3C SN74LS175N
IC2D SN74LS10N WINDOW GEN
IC7A, 7B, 7C SN74163N ÷464
IC7D SN74LS2 AFC SAMPLE PUL
TP1
TP2
TP4
TP8
TP9
TP10
TP11
TP13
E1
E6
E7
TO 2/2
PR-40, 28B
PR-40, 28A
IV-4A, CN21-1
SG, 23B
SG, 23A
PR-40, 21A
SG, 35A
SG, 35B
SG, 26B
SG, 39B
VTR CN PIN-15
PIN-3
PR-40, 29B
VTR CN PIN-4
PR-40, 37A
PR-40, 37B
SG, 29B
SG, 38
SG, 18A
SG, 37A

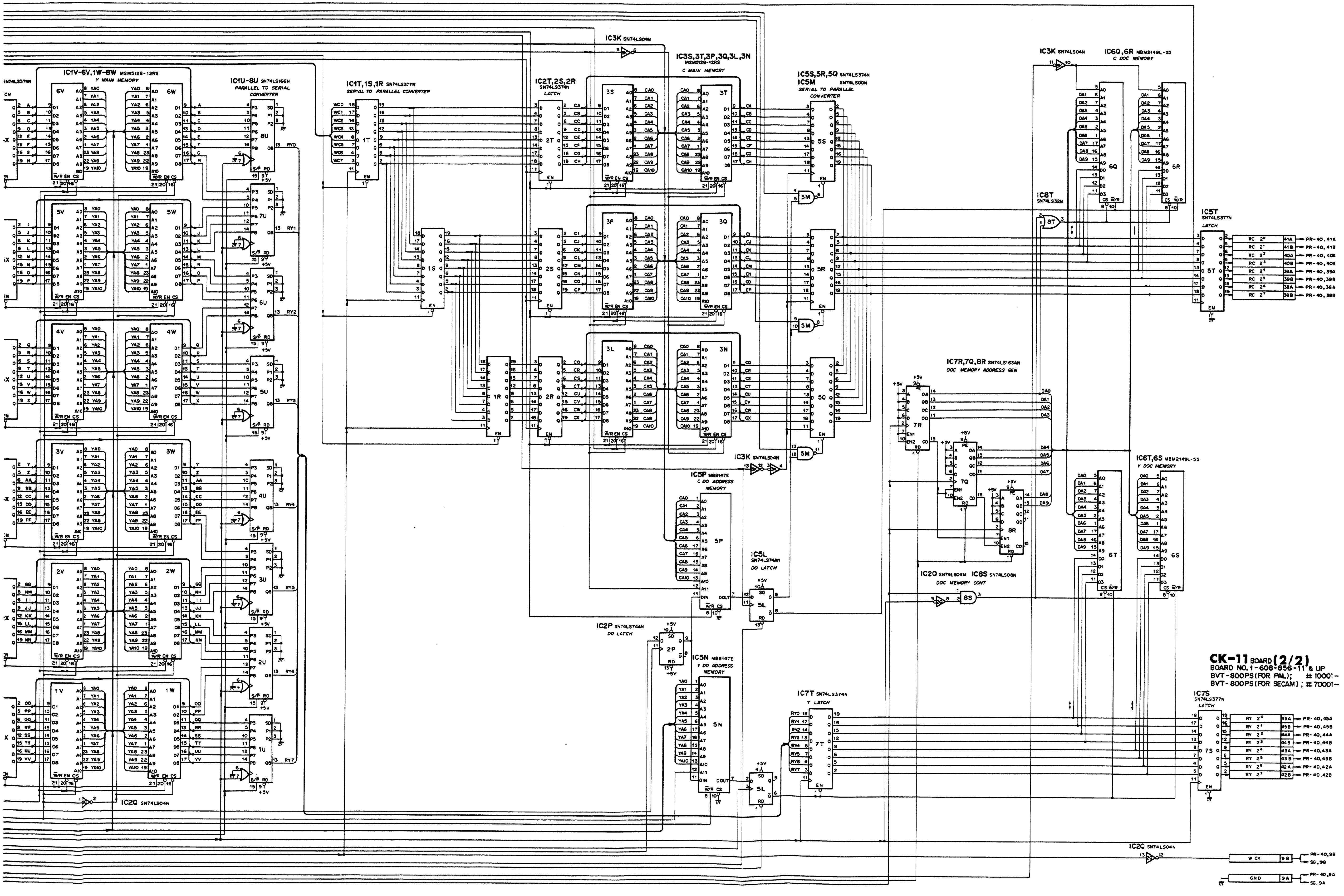

IC7D SN74LS221N AFC SAMPLE PULSE GEN
IC7H SN74LS175N LOAD PULSE GEN
IC8C SN74LS164N WINDOW IN/OUT DET
IC8E SN74LS10N
IC8B SN74LS20N
IC10A SN74LS00N SAMPLE PULSE GATE
IC8E SN74LS10N WINDOW GEN
IC7A,7B,7C SN74163N ÷464
IC8E SN74LS10N
IC8D SN74LS04N
IC8B SN74LS20N
IC8H SN74LS00N
IC6D SN74LS08N
IC6A SN74LS423N AFC RESET INHIBIT SIGNAL GEN
IC9J SN7406N
Q10,11 2SC2724 SAWTOOTH GEN
IC8G TL082CP SAMPLE & HOLD
IC7G MH-201
IC6E SN74LS14N
RV5 10K LOCK PHASE
IC9E TL082CP
IC10H TL084CN ERROR AMP
RV3 10K TRACKING GAIN
RV4 10K TRACKING OFFSET
IC10H TL084CN
Q9 2SC2724
Q5,7 2SC2724
Q6 2SA1027R NARROW RANGE VCO (1392fH)
LV2 2.2μH CENTER FREQ
IC9J SN7406N
WIDE RANGE VCO (1392fH)
Q8 2SA1027R
IC10D FT5709M
IC9G HD10125 LEVEL CONV
IC7E SN74S51N SWITCHER
IC8D SN74LS04N
IC9L SN74LS04N
IC9A SN74S113N
IC10A SN74LS00N ÷2
IC9A SN74S113N ÷2
IC8A SN74S113N ÷3
IC7H SN74LS175N W ZERO GEN
IC8H SN74LS00N
IC5E SN74LS04N
TP2
TP3
TP5
TP6
TP7
TP12
TP13
TP14
TP15
E3
E8
CLP OFF 25A PR-40, 26A
SELECT H 29A PR-40, 29A SG, 28A
NORM/F-BIDIREX 19B PR-40, 19B SG, 18B IV-4A, CN21-3
2/3 W CK 7A SG, 7B
GND 7B SG, 7A
(696fH) W CK 30
W CK 36
TO 2/2
~ W ZERO 26A PR-40, 27A SG, 25B
W ZERO 37 TO 2/2
DUB AFC 21B SG, 19B
GND 21A SG, 19A
NOR DT/BIDIREX 22A PR-40, 23A SG, 22A
IC6A SN74LS423N AFC RESET INHIBIT KILLER
IC6D SN74LS08N
IC3H SN74LS86N
IC5F, 5H SN74LS669N W LINE ADDRESS GEN
IC4H SN74LS174N HOLD
IC4G TBP28S42N-YADR Y READ LINE CONT
IC6G, 6F SN74LS669N Y READ LINE ADDRESS GEN
IC3G SN74LS74AN
IC3H SN74LS86N
W LINE ADD 2⁰ 2¹ 2² 2³ 2⁴
Y R LINE ADD 2⁰ 2¹ 2² 2³ 2⁴
TO 2/2
IC5G SN74LS684N WRITE/READ LINE COINCIDENCE DET
IC4F SN74LS74AN ADDRESS GEN CONT
+12V 2AB
+5V 3AB
GND 1AB 4AB 16AB 46AB 50AB
-5V 48AB
-12V 49AB
IC3C SN74LS175N
IC2D SN74LS10N WINDOW GEN
IC3D SN74LS164N
IC3B SN74LS74AN
IC4E SN74LS00N
IC4C SN74LS175N
IC4D SN74LS74AN EE DET
IC3E SN74LS151N V LOAD PULSE SELECTOR
IC4E SN74LS00N
IC5E SN74LS04N
IC5A SN74LS221N
IC4C SN74LS74AN ADV DET
(16H ± 1.5H)
(ADV < 14.5H)
IC6B SN74LS74AN PB FIELD O/E DET
IC4D SN74LS175N V LOCK ENABLE
IC4E SN74LS00N
IC3B SN74LS74AN
IC6H TBP28S42N-CADR C READ LINE ADDRESS CONT
C LINE ADD 2⁰ 2¹ 2² 2³ 2⁴
C DO CONT
Y DO CONT
TO 2/2
IC3H SN74LS86N
IC8T SN74LS32N
S2 CHROMA INV SHIFT
IC3G SN74LS74AN
CHR INV 31B SG, 28B
REF O/E 16 TO 2/2
REMOTE IN PIN-12
REMOTE IN PIN-11
ADV 2 8A DP-24A, 6
ADV 1 8B DP-24A, 5

CK-11 BOARD **(1/2)**
BOARD NO. 1-608-856-11 & UP
BVT-800PS (FOR PAL); #10001-
BVT-800PS (FOR SECAM); #70001-

3 CK-11 BOARD (2/2); CLOCK GEN

32-Line Main Memory
DOC Memory
Serial to Parallel Converter
Main Memory W/R Address Generator

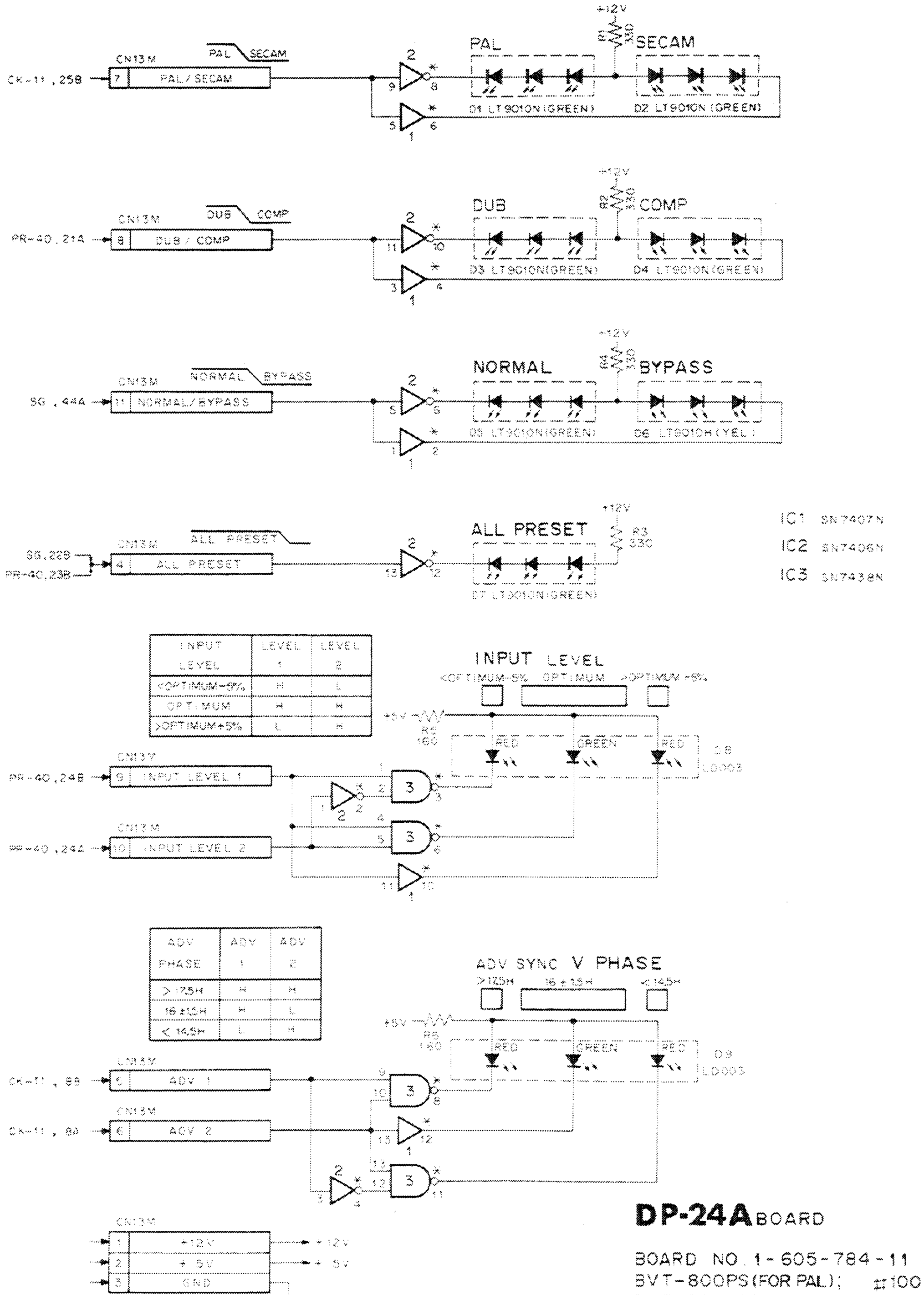

IC2K SN74LS367AN DELAY
IC7K SN74LS74AN
IC5K SN74LS00N C MAIN MEMORY CONT
IC2L SN74LS175N
IC1N SN74LS123N
IC3K SN74LS04N
IC8K SN74LS114N ÷3
IC2M SN74LS04N
IC2N SN74LS00N
IC6M,6N,6P SN74LS158N C MAIN MEMORY ADDRESS SELECT
IC8L,8P SN74LS161AN C READ ADDRESS GEN
IC8M,8Q SN74LS161AN WRITE ADDRESS GEN
IC7K SN74LS74AN ÷2
IC2M,3K SN74LS04N
IC6K SN74LS114AN ÷3
IC7M,7N,7P SN74LS158N Y MAIN MEMORY ADDRESS SELECT
IC7L,8N SN74LS161AN Y READ ADDRESS GEN
IC1N SN74LS123N
IC2P SN74LS74AN
IC1L SN74LS175N
IC2M SN74LS04N
IC2N,5K SN74LS00N Y MAIN MEMORY CONT
IC2M SN74LS04N
IC1K SN74LS163AN
IC2N SN74LS00N DELAY
IC1M SN74LS164N
IC1P SN74LS157N
IC1L SN74LS175N
IC2M SN74LS04N
IC5M SN74LS00N
IC6L SN74LS163AN ÷6
IC2K SN74LS367AN DELAY
IC5K SN74LS00N
IC1Y-8Y SN74LS164N SERIAL TO PARALLEL CONVERTER
IC1X-6X SN74LS374N LATCH
IC1V-6V,1W-8W MSM5128-12 Y MAIN MEMORY
IC2Q SN7
FROM 1/2
1/2 RCK
F R ZERO
R ZERO
C R LINE ADD2⁰CLA0
W CK
W ZERO
W LINE ADD2⁰WLA0
Y R LINE ADD2⁰YLA0
PAL SECAM
R ZERO CONT2⁰
RCK
WCK
C DO CONT
LINE DO
Y DO CONT
DO PULSE
REF O/E
GND
C RCK
PR-40,36B
PR-40,36A
WRITE READ
E4
E5


IC1V-6V,1W-8W MSM5128-12RS
Y MAIN MEMORY
IC1U-8U SN74LS166N
PARALLEL TO SERIAL CONVERTER
IC1T,1S,1R SN74LS377N
SERIAL TO PARALLEL CONVERTER
IC2T,2S,2R SN74LS374N
LATCH
IC3K SN74LS04N
IC3S,3T,3P,3Q,3L,3N MSM5128-12RS
C MAIN MEMORY
IC5S,5R,5Q SN74LS374N
IC5M SN74LS00N
SERIAL TO PARALLEL CONVERTER
IC3K SN74LS04N
IC6Q,6R MBM2149L-55
C DOC MEMORY
IC8T SN74LS32N
IC5T SN74LS377N
LATCH
IC7R,7Q,8R SN74LS163AN
DOC MEMORY ADDRESS GEN
IC6T,6S MBM2149L-55
Y DOC MEMORY
IC5P MB8147E
C DO ADDRESS MEMORY
IC5L SN74LS74AN
DO LATCH
IC2Q SN74LS04N IC8S SN74LS08N
DOC MEMORY CONT
IC2P SN74LS74AN
DO LATCH
IC5N MB8147E
Y DO ADDRESS MEMORY
IC7T SN74LS374N
Y LATCH
IC2Q SN74LS04N
IC7S SN74LS377N
LATCH
RC 2⁰ 41A PR-40,41A
RC 2¹ 41B PR-40,41B
RC 2² 40A PR-40,40A
RC 2³ 40B PR-40,40B
RC 2⁴ 39A PR-40,39A
RC 2⁵ 39B PR-40,39B
RC 2⁶ 38A PR-40,38A
RC 2⁷ 38B PR-40,38B
RY 2⁰ 45A PR-40,45A
RY 2¹ 45B PR-40,45B
RY 2² 44A PR-40,44A
RY 2³ 44B PR-40,44B
RY 2⁴ 43A PR-40,43A
RY 2⁵ 43B PR-40,43B
RY 2⁶ 42A PR-40,42A
RY 2⁷ 42B PR-40,42B
IC2Q SN74LS04N
W CK 9B PR-40,9B SG,9B
GND 9A PR-40,9A SG,9A
CK-11 BOARD (2/2)
BOARD NO.1-608-856-11 & UP
BVT-800PS(FOR PAL); #10001-
BVT-800PS(FOR SECAM); #70001-

DP-24A E

CK-11 , 25B
PR-40 , 21A
SG , 44A
SG,22B
PR-40,23B
PR-40 , 24B
PR-40 , 24A
CK-11 , 9B
CK-11 , 8A

DP-24A BOARD ; DISPLAY


CK-11 , 25B
CN13M
7 PAL/SECAM
PAL SECAM
PAL
SECAM
+12V
R1 330
D1 LT9010N (GREEN)
D2 LT9010N (GREEN)
PR-40 , 21A
8 DUB / COMP
DUB COMP
DUB
COMP
R2 330
D3 LT9010N (GREEN)
D4 LT9010N (GREEN)
SG , 44A
11 NORMAL/BYPASS
NORMAL BYPASS
NORMAL
BYPASS
R4 330
D5 LT9010N (GREEN)
D6 LT9010H (YEL)
SG, 22B
PR-40, 23B
4 ALL PRESET
ALL PRESET
R3 330
D7 LT9010N (GREEN)
IC1 SN7407N
IC2 SN7406N
IC3 SN7438N
INPUT LEVEL
<OPTIMUM-5% OPTIMUM >OPTIMUM+5%
+5V
R5 160
RED GREEN RED
D8 LD003
PR-40 , 24B
9 INPUT LEVEL 1
PR-40 , 24A
10 INPUT LEVEL 2
ADV SYNC V PHASE
>17.5H 16 ± 1.5H <14.5H
R6 160
D9 LD003
CK-11 , 8B
5 ADV 1
CK-11 , 8A
6 ADV 2
1 +12V
2 +5V
3 GND
+12V
+5V

INPUT LEVEL	LEVEL 1	LEVEL 2
<OPTIMUM-5%	H	L
OPTIMUM	H	H
>OPTIMUM+5%	L	H

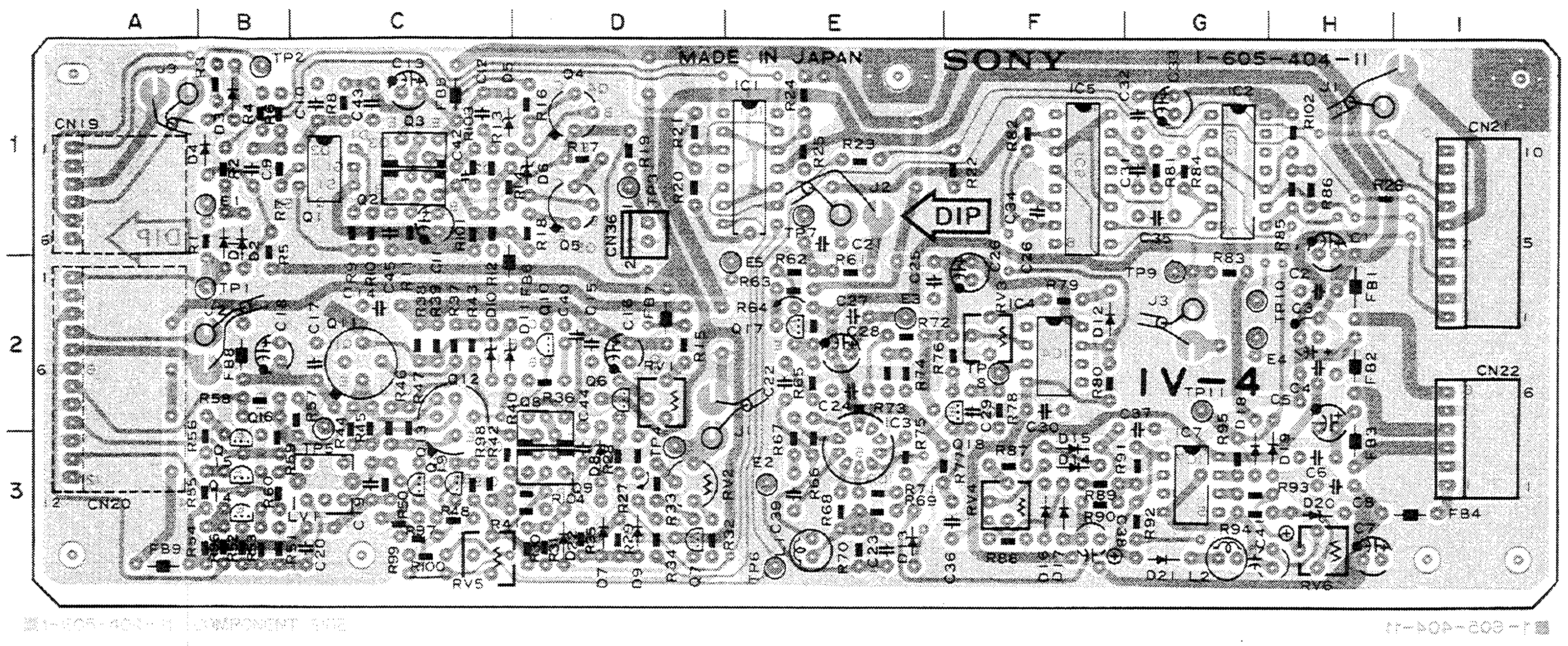
ADV PHASE	ADV 1	ADV 2
> 17.5H	H	H
16 ±1.5H	H	L
< 14.5H	L	H

DP-24A BOARD

BOARD NO. 1-605-784-11
BVT-800PS (FOR PAL); ♯10001-
BVT-800PS (FOR SECAM); ♯70001-

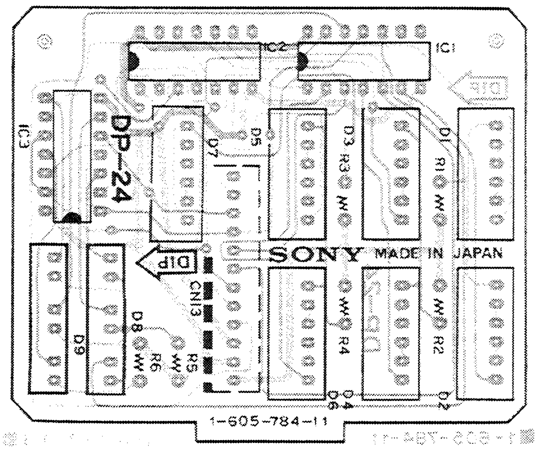
IV-4A BOARD (1-605-404-11)

Component Side


A
B
C
D
E
F
G
H
I
1
2
3
MADE IN JAPAN
SONY
1-605-404-11
IV-4
DIP
CN19
CN20
CN21
CN22
CN36
IC1
IC2
IC3
IC5
1-605-404-11

DP-24A BOARD (1-605-784-11)

Component Side


DP-24
IC1
IC2
IC3
DIP
CN13
SONY MADE IN JAPAN
1-605-784-11

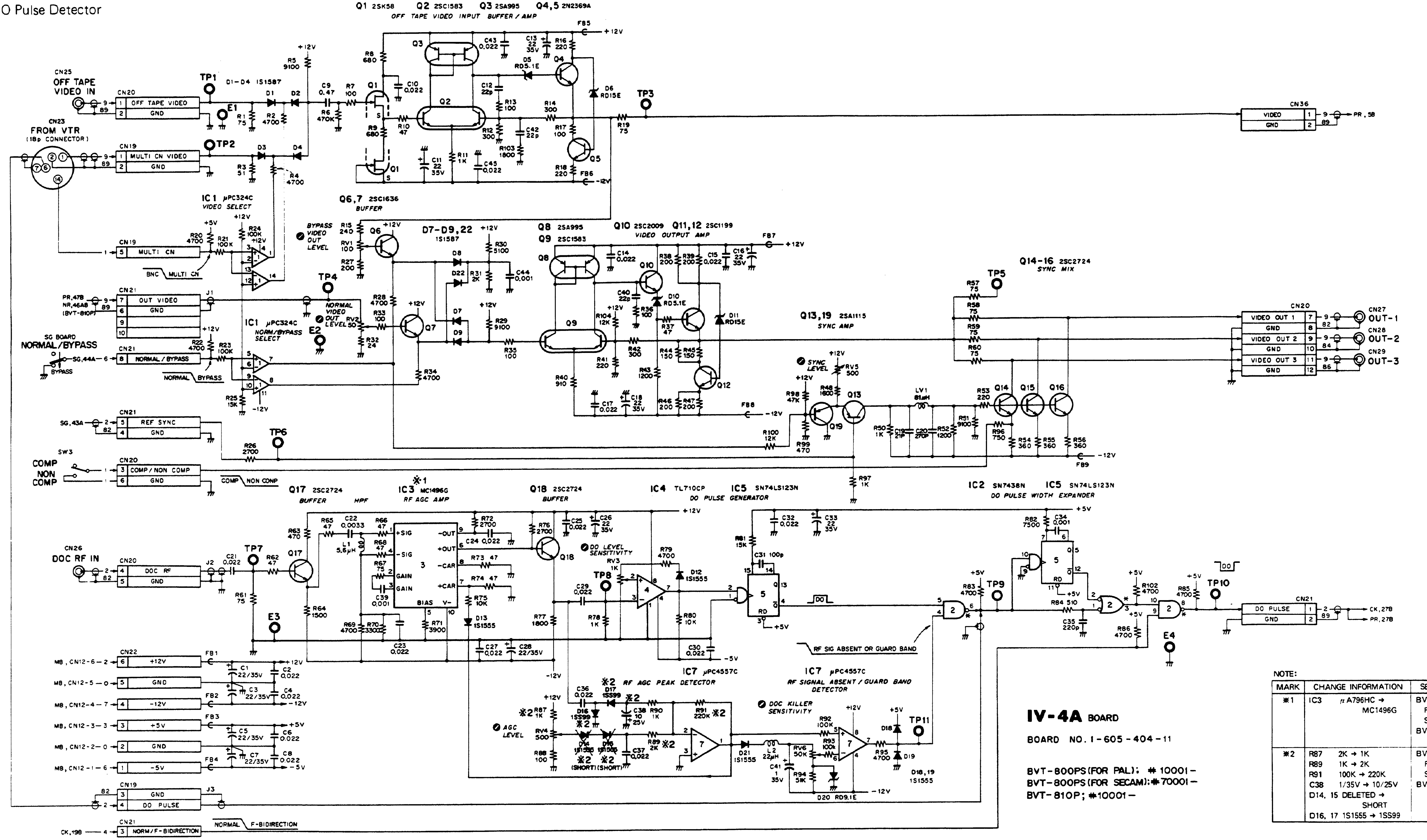
IV-4A (1-605-404-11)

BVT-800PS

CN19	1A
CN20	2A
CN21	1I
CN22	2I
CN36	1D
D1	1B
D2	1B
D3	1B
D4	1B
D5	1C
D6	1D
D7	3D
D8	3D
D9	3D
D10	2C
D11	2C
D12	2F
D13	3E
D14	3F
D15	3F
D16	3F
D17	3F
D18	3G
D19	3H
D20	3H
D21	3G
D22	3D
E1	1B
E2	3E
E3	2E
E4	2G
E5	2E
IC1	1E
IC2	1G
IC3	3E
IC4	2F
IC5	1F
IC7	3G
Q1	1C
Q2	1C
Q3	1C
Q4	1D
Q5	1D
Q6	2D
Q7	3D
Q8	2D
Q9	3D
Q10	2D
Q11	2C
Q12	2C
Q13	3C
Q14	3B
Q15	3B
Q16	3B
Q17	2E
Q18	2F
Q19	3C
RV1	2D
RV2	3D
RV3	2F
RV4	3F
RV5	3C
RV6	3H
TP1	2B
TP2	1B
TP3	1D
TP4	3D
TP5	2C
TP6	3E
TP7	1E
TP8	2F
TP9	2G
TP10	2G
TP11	2G

IV-4A BOARD

Input Video Amplifier
Output Video Amplifier
DO Pulse Detector


Q1 2SK58 Q2 2SC1583 Q3 2SA995 Q4,5 2N2369A
OFF TAPE VIDEO INPUT BUFFER / AMP
CN25 OFF TAPE VIDEO IN
CN23 FROM VTR (18p CONNECTOR)
CN20 OFF TAPE VIDEO
CN19 MULTI CN VIDEO
TP1 D1-D4 1S1587
TP2
TP3
E1
IC1 μPC324C VIDEO SELECT
Q6,7 2SC1636 BUFFER
BYPASS VIDEO OUT LEVEL
D7-D9,22 1S1587
Q8 2SA995 Q9 2SC1583
Q10 2SC2009 Q11,12 2SC1199 VIDEO OUTPUT AMP
CN36 VIDEO GND PR,58
Q14-16 2SC2724 SYNC MIX
Q13,19 2SA1115 SYNC AMP
TP4 TP5 TP6
NORMAL VIDEO OUT LEVEL
IC1 μPC324C NORM/BYPASS SELECT
E2
PR,47B NR,46AB (BVT-810P)
OUT VIDEO
SG BOARD NORMAL/BYPASS
NORMAL / BYPASS
SYNC LEVEL
LV1 81μH
CN20 VIDEO OUT 1 VIDEO OUT 2 VIDEO OUT 3
CN27 OUT-1 CN28 OUT-2 CN29 OUT-3
SG,43A REF SYNC
SW3 COMP NON COMP
COMP / NON COMP
Q17 2SC2724 BUFFER HPF
IC3 MC1496G RF AGC AMP ※1
Q18 2SC2724 BUFFER
IC4 TL710CP IC5 SN74LS123N DO PULSE GENERATOR
IC2 SN7438N IC5 SN74LS123N DO PULSE WIDTH EXPANDER
CN26 DOC RF IN
DOC RF
TP7 TP8 TP9 TP10 TP11
E3 E4
DO LEVEL SENSITIVITY
RF SIG ABSENT OR GUARD BAND
IC7 μPC4557C ※2 RF AGC PEAK DETECTOR
IC7 μPC4557C RF SIGNAL ABSENT / GUARD BAND DETECTOR
DOC KILLER SENSITIVITY
AGC LEVEL
(SHORT) (SHORT)
D18,19 1S1555
D20 RD9.1E
CN22 MB,CN12-6-2 +12V MB,CN12-5-0 GND MB,CN12-4-7 -12V MB,CN12-3-3 +5V MB,CN12-2-0 GND MB,CN12-1-6 -5V
CN19 GND DO PULSE
CN21 DO PULSE GND CK,27B PR,27B
CN21 NORM/F-BIDIRECTION CK,19B
NORMAL F-BIDIRECTION

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	IC3 μA796HC → MC1496G	BVT-800PS P: 13701 ~ S: 70801 ~ BVT-810P 10801 ~
※2	R87 2K → 1K R89 1K → 2K R91 100K → 220K C38 1/35V → 10/25V D14, 15 DELETED → SHORT D16, 17 1S1555 → 1SS99	BVT-800PS P : 13701 ~ S : 70901 ~ BVT-810P 11001 ~

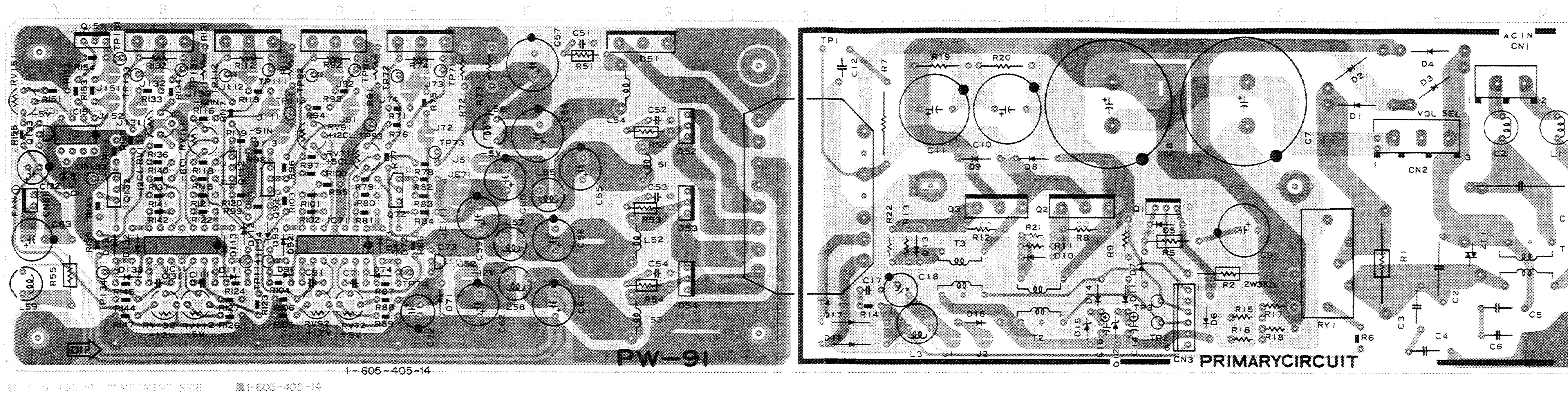
IV-4A BOARD

BOARD NO. 1-605-404-11

BVT-800PS(FOR PAL); #10001-
BVT-800PS(FOR SECAM):#70001-
BVT-810P; #10001-

PW-91A BOARD (1-605-405-14)

Component Side


A B C D E F G H I J K L M
1 2 3 4 5
PW-91
PRIMARYCIRCUIT
AC IN CN1
VOL SEL
CN2
CN3
RY1
T1
DIP
1-605-405-14

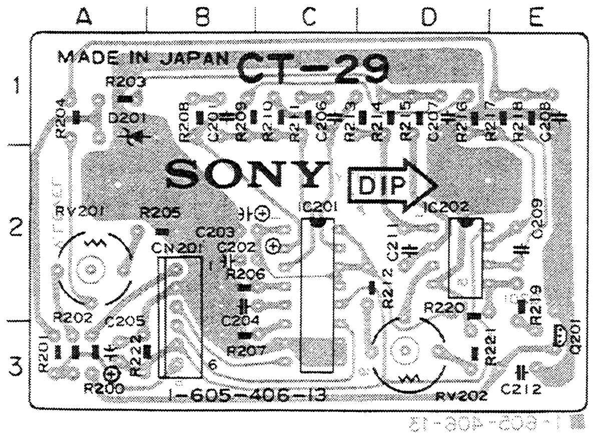
PW-91A (1-605-405-14)

BVT-800PS

CN1	1M
CN2	2L
CN3	4K
CN51	3A
D1	2K
D2	1K
D3	2L
D4	1L
D5	3J
D6	4K
D7	4J
D8	2I
D9	2I
D10	3I
D11	4J
D12	4J
D13	3I
D14	4J
D15	4J
D16	4I
D17	4H
D18	4H
D51	1G
D52	2G
D53	3G
D54	4G
D71	4E
D72	3E
D73	3E
D74	4E
D91	4C
D92	3C
D93	3C
D111	4C
D112	3C
D113	3C
D131	3B
D132	3B
D133	4B
D134	3A
IC71	3D
IC111	3B
Q1	3J
Q2	3J
Q3	3I
Q71	1E
Q72	3E
Q73	3E
Q91	1D
Q92	3C
Q111	1C
Q112	2C
Q131	1B
Q132	3B
Q133	2A
RV71	2D
RV72	4D
RV91	2D
RV92	4D
RV111	2B
RV131	2B
RV132	4B
RV151	2A
TP1	1H
TP2	4J
TP3	4J
TP71	1E
TP72	1E
TP73	2E
TP74	4E
TP91	1D
TP92	1D
TP93	2D
TP94	3C
TP111	1C
TP112	1C
TP113	2C
TP114	3C
TP131	1B
TP132	3A
TP133	1B
TP134	4A
TP151	1B
ZT1	3L
WIRING TERMINAL	
J72	2E
J73	1E
J74	2E
J91	2D
J92	1D
J111	2C
J112	1C
J131	2B
J132	1B
J151	1B
J152	2B
JE71	3F
JE111	3E

CT-29 BOARD (1-605-406-13)

Component Side


A B C D E
1 2 3
MADE IN JAPAN
CT-29
SONY
DIP
1-605-406-13

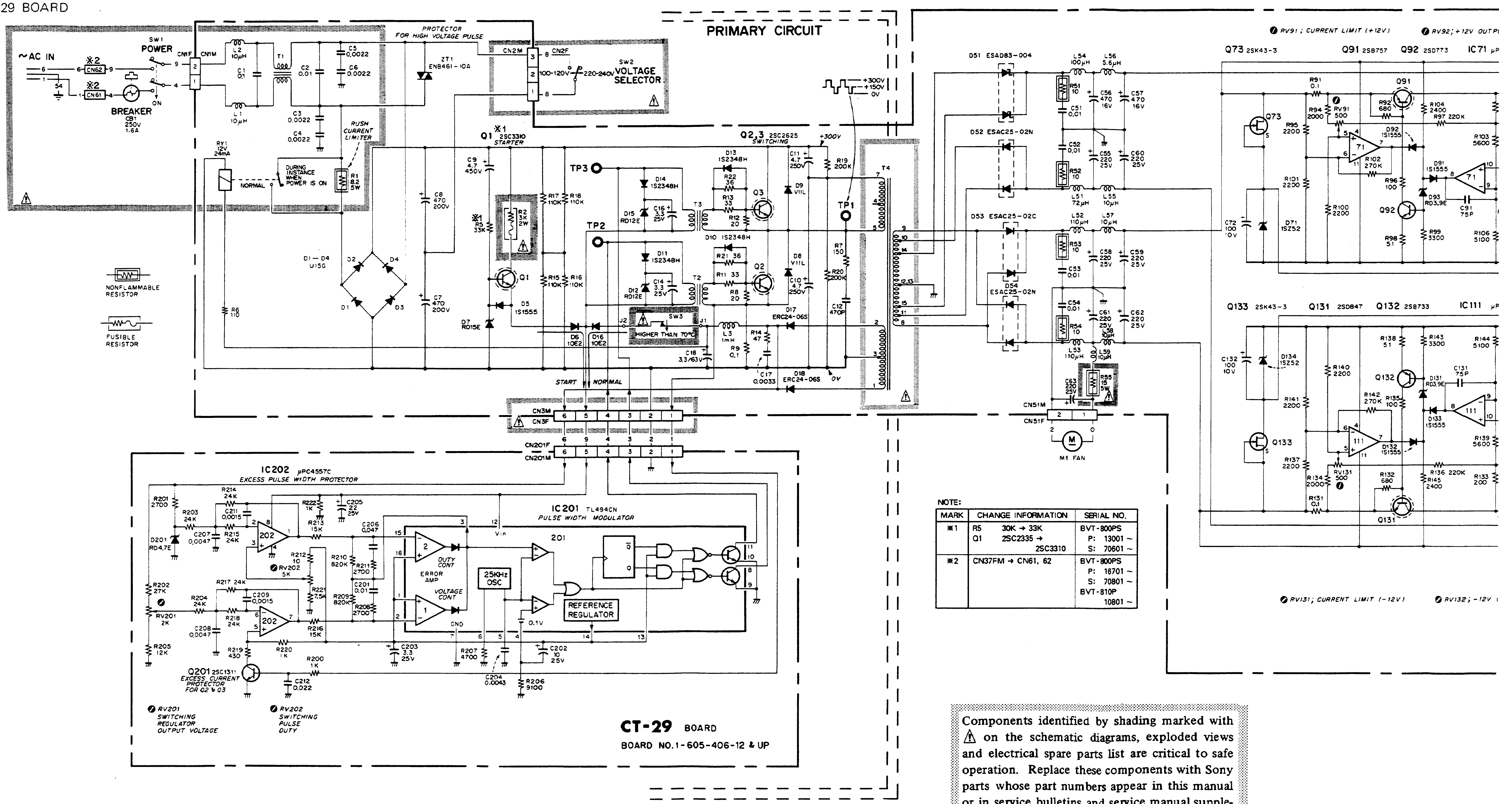
CT-29 (1-605-406-11 to 13)

BVT-800PS

CN201	2B
D201	1A
IC201	2C
IC202	2D
Q201	3E
RV201	2A
RV202	3D

POWER SUPPLY

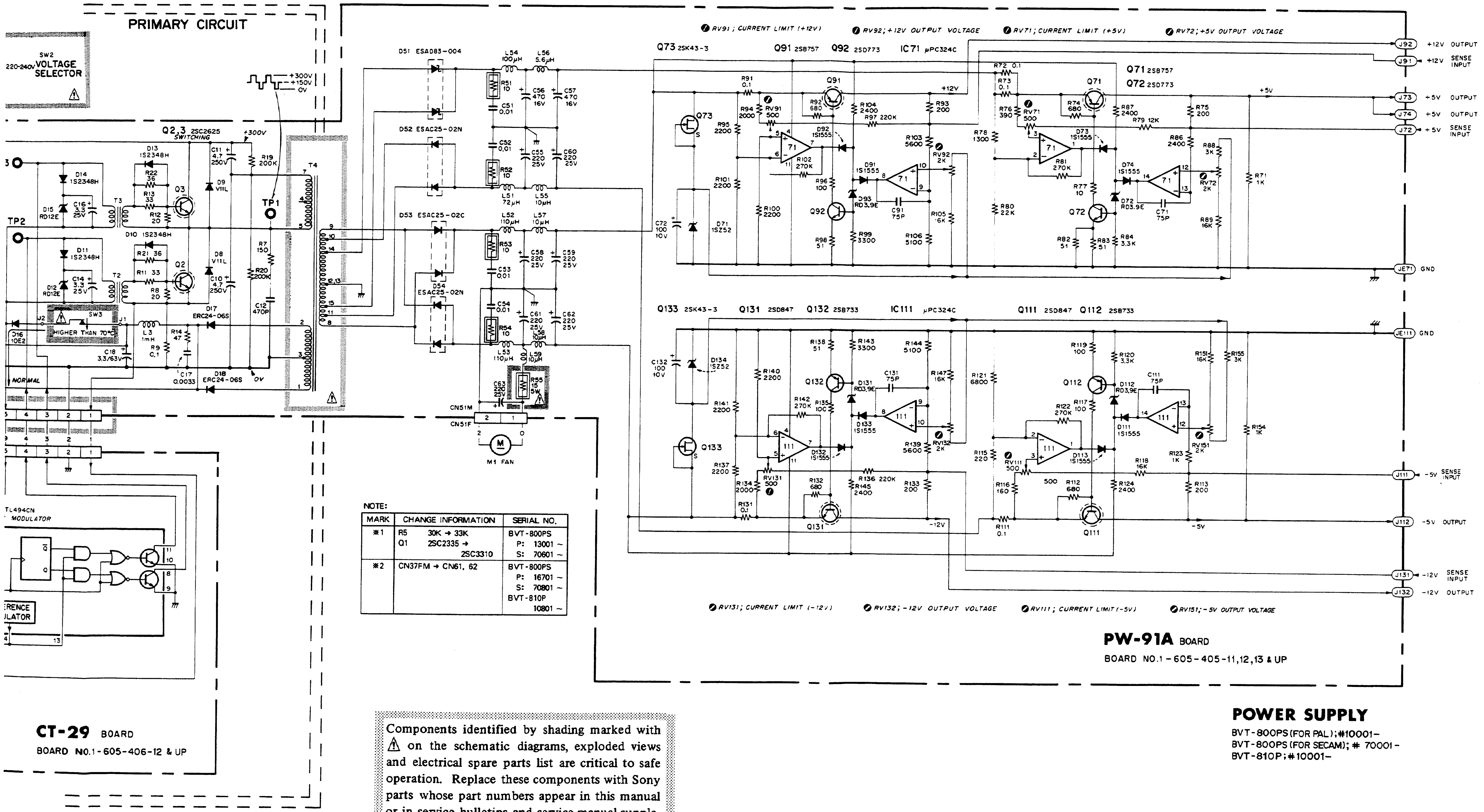
PW-91A BOARD
CT-29 BOARD


~AC IN
SW1 POWER
BREAKER
CB1 250V 1.6A
PROTECTOR FOR HIGH VOLTAGE PULSE
ZT1 ENB461-10A
SW2 VOLTAGE SELECTOR
100-120V
220-240V
RUSH CURRENT LIMITER
RY1 12V 24mA
NORMAL
DURING INSTANCE WHEN POWER IS ON
R1 8.2 5W
PRIMARY CIRCUIT
Q1 2SC3310 STARTER
Q2,3 2SC2625 SWITCHING
+300V
+150V
0V
TP1
TP2
TP3
T3
T2
T4
SW3
HIGHER THAN 70°C
START
NORMAL
D1 - D4 U15G
NONFLAMMABLE RESISTOR
FUSIBLE RESISTOR
CN3M
CN3F
CN201F
CN201M
D51 ESAD83-004
D52 ESAC25-02N
D53 ESAC25-02C
D54 ESAC25-02N
CN51M
CN51F
M1 FAN
Q73 2SK43-3
Q91 2SB757
Q92 2SD773
IC71
RV91; CURRENT LIMIT (+12V)
RV92; +12V OUTPUT
Q133 2SK43-3
Q131 2SD847
Q132 2SB733
IC111
RV131; CURRENT LIMIT (-12V)
RV132; -12V
IC202 μPC4557C EXCESS PULSE WIDTH PROTECTOR
IC201 TL494CN PULSE WIDTH MODULATOR
ERROR AMP
DUTY CONT
VOLTAGE CONT
25KHz OSC
REFERENCE REGULATOR
Q201 2SC1311 EXCESS CURRENT PROTECTOR FOR Q2 & Q3
RV201 SWITCHING REGULATOR OUTPUT VOLTAGE
RV202 SWITCHING PULSE DUTY
CT-29 BOARD
BOARD NO.1-605-406-12 & UP

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	R5 30K → 33K Q1 2SC2335 → 2SC3310	BVT-800PS P: 13001 ~ S: 70601 ~
※2	CN37FM → CN61, 62	BVT-800PS P: 16701 ~ S: 70801 ~ BVT-810P 10801 ~

Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.


PRIMARY CIRCUIT
SW2 220-240V VOLTAGE SELECTOR
Q2,3 2SC2625 SWITCHING
+300V
+150V
0V
TP1
TP2
T2
T3
T4
D13 1S2348H
D14 1S2348H
D11 1S2348H
D10 1S2348H
D15 RD12E
D12 RD12E
D9 V11L
D8 V11L
R19 200K
R20 200K
C11 4.7 250V
C10 4.7 250V
C12 470P
D17 ERC24-06S
D18 ERC24-06S
C17 0.0033
SW3 HIGHER THAN 70°C
L3 1mH
C18 3.3/63V
NORMAL
TL494CN MODULATOR
REFERENCE REGULATOR
CT-29 BOARD
BOARD NO.1-605-406-12 & UP
D51 ESAD83-004
D52 ESAC25-02N
D53 ESAC25-02C
D54 ESAC25-02N
L54 100μH
L56 5.6μH
L51 72μH
L55 10μH
L52 110μH
L57 10μH
L53 110μH
L59 10μH
C56 470 16V
C57 470 16V
C55 220 25V
C60 220 25V
C58 220 25V
C59 220 25V
C61 220 25V
C62 220 25V
C63 220 25V
R55 15 5W
CN51M
CN51F
M1 FAN
RV91; CURRENT LIMIT (+12V)
RV92; +12V OUTPUT VOLTAGE
RV71; CURRENT LIMIT (+5V)
RV72; +5V OUTPUT VOLTAGE
Q73 2SK43-3
Q91 2SB757
Q92 2SD773
IC71 μPC324C
Q71 2SB757
Q72 2SD773
+12V
+5V
J92 +12V OUTPUT
J91 +12V SENSE INPUT
J73 +5V OUTPUT
J74 +5V OUTPUT
J72 +5V SENSE INPUT
JE71 GND
Q133 2SK43-3
Q131 2SD847
Q132 2SB733
IC111 μPC324C
Q111 2SD847
Q112 2SB733
JE111 GND
J111 -5V SENSE INPUT
J112 -5V OUTPUT
J131 -12V SENSE INPUT
J132 -12V OUTPUT
-12V
-5V
RV131; CURRENT LIMIT (-12V)
RV132; -12V OUTPUT VOLTAGE
RV111; CURRENT LIMIT (-5V)
RV151; -5V OUTPUT VOLTAGE
PW-91A BOARD
BOARD NO.1-605-405-11,12,13 & UP

NOTE:

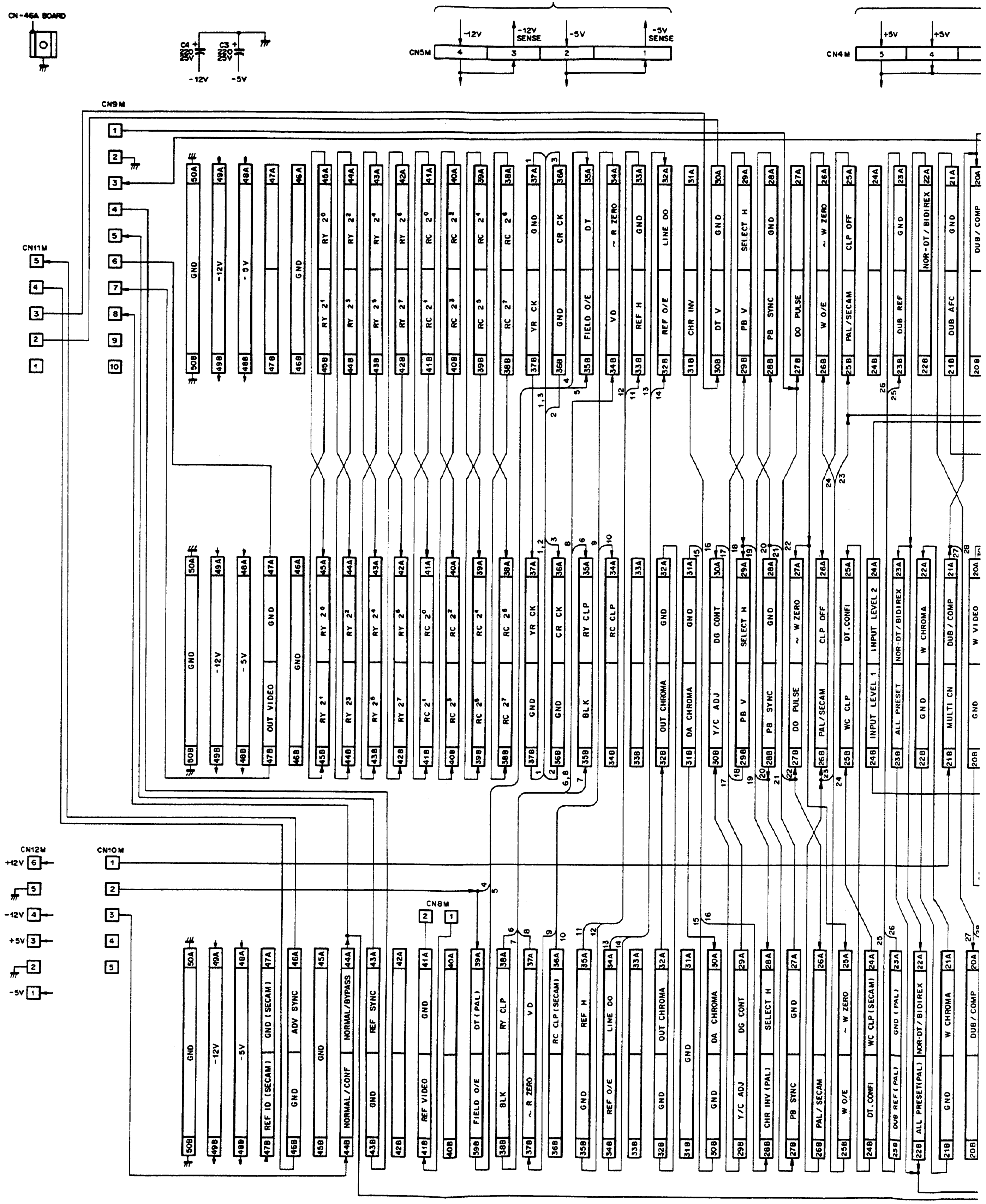
MARK	CHANGE INFORMATION	SERIAL NO.
※1	R5 30K → 33K Q1 2SC2335 → 2SC3310	BVT-800PS P: 13001 ~ S: 70601 ~
※2	CN37FM → CN61, 62	BVT-800PS P: 16701 ~ S: 70801 ~ BVT-810P 10801 ~

Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

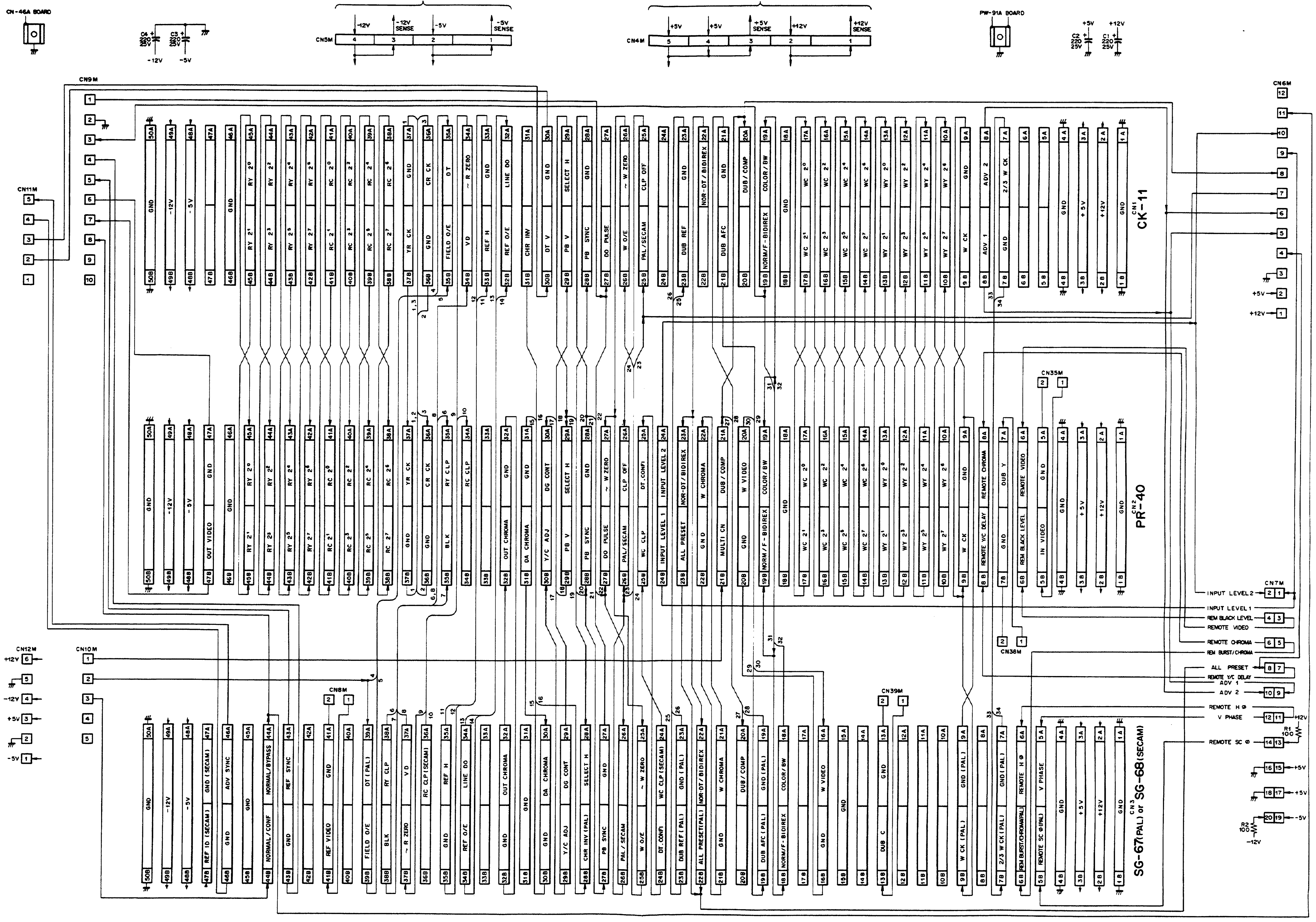
POWER SUPPLY

BVT-800PS (FOR PAL); #10001-
BVT-800PS (FOR SECAM); # 70001-
BVT-810P; #10001-

MB-35 BOARD ; MOTHER BOARD


CN-46A BOARD
PW-91A BOARD
CN5M
-12V
-12V SENSE
-5V
-5V SENSE
CN4M
+5V
C4 220 25V
C3 220 25V
-12V
-5V
CN9M
CN11M
CN12M
CN10M
CN8M
+12V
-12V
+5V
-5V
GND
-12V
-5V
RY 2⁰
RY 2²
RY 2⁴
RY 2⁶
RY 2¹
RY 2³
RY 2⁵
RY 2⁷
RC 2⁰
RC 2²
RC 2⁴
RC 2⁶
RC 2¹
RC 2³
RC 2⁵
RC 2⁷
YR CK
CR CK
DT
FIELD O/E
~ R ZERO
VD
REF H
LINE DO
REF O/E
CHR INV
DT V
SELECT H
PB V
PB SYNC
DO PULSE
~ W ZERO
W O/E
CLP OFF
PAL/SECAM
DUB REF
NOR-DT/BIDIREX
DUB AFC
DUB/COMP
OUT VIDEO
RY CLP
RC CLP
BLK
OUT CHROMA
DA CHROMA
DG CONT
Y/C ADJ
DT.CONFI
WC CLP
INPUT LEVEL 1
INPUT LEVEL 2
ALL PRESET
W CHROMA
MULTI CN
W VIDEO
REF ID (SECAM)
GND (SECAM)
ADV SYNC
NORMAL/CONF
NORMAL/BYPASS
REF SYNC
REF VIDEO
DT (PAL)
RC CLP (SECAM)
CHR INV (PAL)
WC CLP (SECAM)
GND (PAL)
DUB REF (PAL)
ALL PRESET (PAL)
NOR-DT/BIDIREX

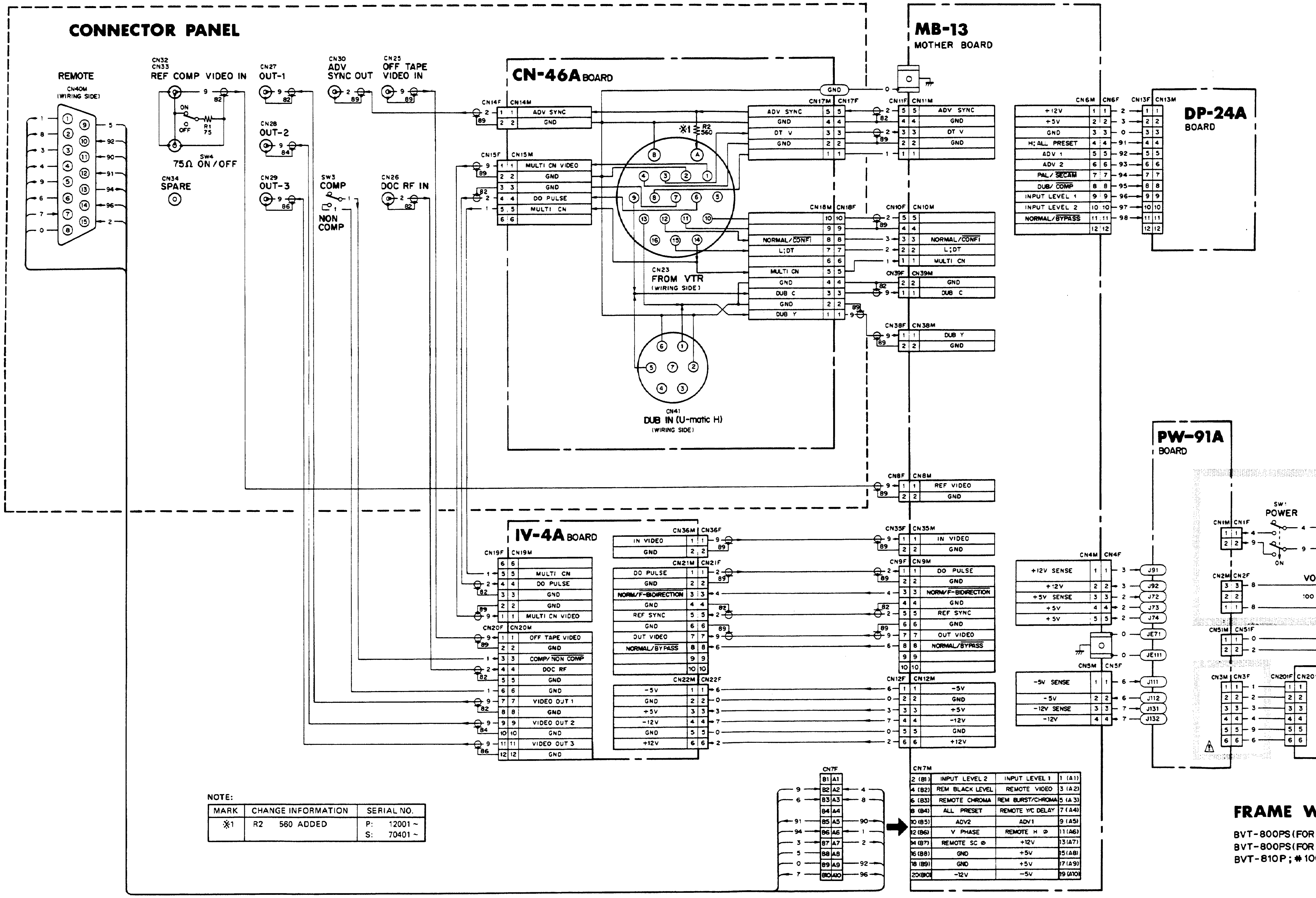
MB-35 BOARD ; MOTHER BOARD


CN-46A BOARD
PW-91A BOARD
PW-91A BOARD
PW-91A BOARD
CN5M
CN4M
CN9M
CN11M
CN6M
CN1 CK-11
CN2 PR-40
CN35M
CN36M
CN7M
CN12M
CN10M
CN8M
CN39M
CN3 SG-67(PAL) or SG-68(SECAM)
-12V SENSE
-5V SENSE
+5V SENSE
+12V SENSE
INPUT LEVEL 2
INPUT LEVEL 1
REM BLACK LEVEL
REMOTE VIDEO
REMOTE CHROMA
REM BURST/CHROMA
ALL PRESET
REMOTE Y/C DELAY
ADV 1
ADV 2
REMOTE H φ
V PHASE
REMOTE SC φ
R1 100
R2 100

MB-35 BOARD BVT-800PS (FOR PAL) ; #10001-
BVT-800PS (FOR SECAM); #70001-
BOARD NO. 1-608-855-11 & UP

FRAME WIRING

CN-46A BOARD

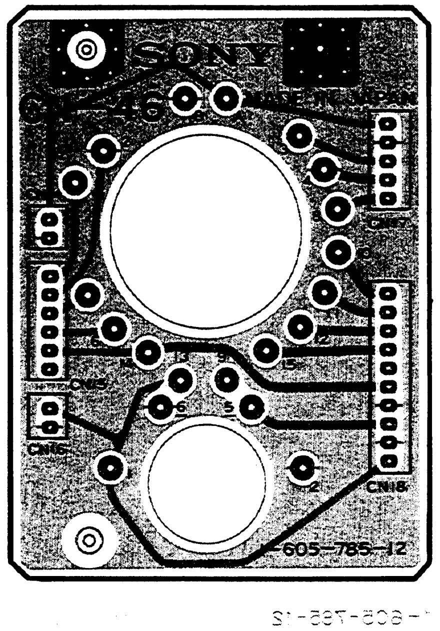

CONNECTOR PANEL
REMOTE
CN40M (WIRING SIDE)
CN32 CN33 REF COMP VIDEO IN
CN27 OUT-1
CN30 ADV SYNC OUT
CN25 OFF TAPE VIDEO IN
CN28 OUT-2
CN29 OUT-3
SW4 75Ω ON/OFF
CN34 SPARE
SW3 COMP
NON COMP
CN26 DOC RF IN
CN-46A BOARD
※1 R2 560
CN23 FROM VTR (WIRING SIDE)
CN41 DUB IN (U-matic H) (WIRING SIDE)
MB-13 MOTHER BOARD
DP-24A BOARD
PW-91A BOARD
CB1 BREAKER 250V 1.6A
SW1 POWER
POWER CORD
SW2 VOLTAGE SELECTOR
100-120V
220-240V
M1 FAN
CT-29 BOARD
IV-4A BOARD
ADV SYNC
GND
DT V
MULTI CN VIDEO
DO PULSE
MULTI CN
NORMAL/CONFI
L:DT
DUB C
DUB Y
REF VIDEO
IN VIDEO
NORM/F-BIDIRECTION
REF SYNC
OUT VIDEO
NORMAL/BYPASS
OFF TAPE VIDEO
COMP/NON COMP
DOC RF
VIDEO OUT 1
VIDEO OUT 2
VIDEO OUT 3
+12V
+5V
H:ALL PRESET
ADV 1
ADV 2
PAL/SECAM
DUB/COMP
INPUT LEVEL 1
INPUT LEVEL 2
+12V SENSE
+5V SENSE
-5V SENSE
-12V SENSE
-5V
-12V
INPUT LEVEL 2
REM BLACK LEVEL
REMOTE CHROMA
ALL PRESET
V PHASE
REMOTE SC φ
REMOTE VIDEO
REM BURST/CHROMA
REMOTE Y/C DELAY
REMOTE H φ

NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
※1	R2 560 ADDED	P: 12001 ~ S: 70401 ~

CN-46A BOARD (1-605-785-12)

Component Side


SONY
CN16
CN18
1-605-785-12

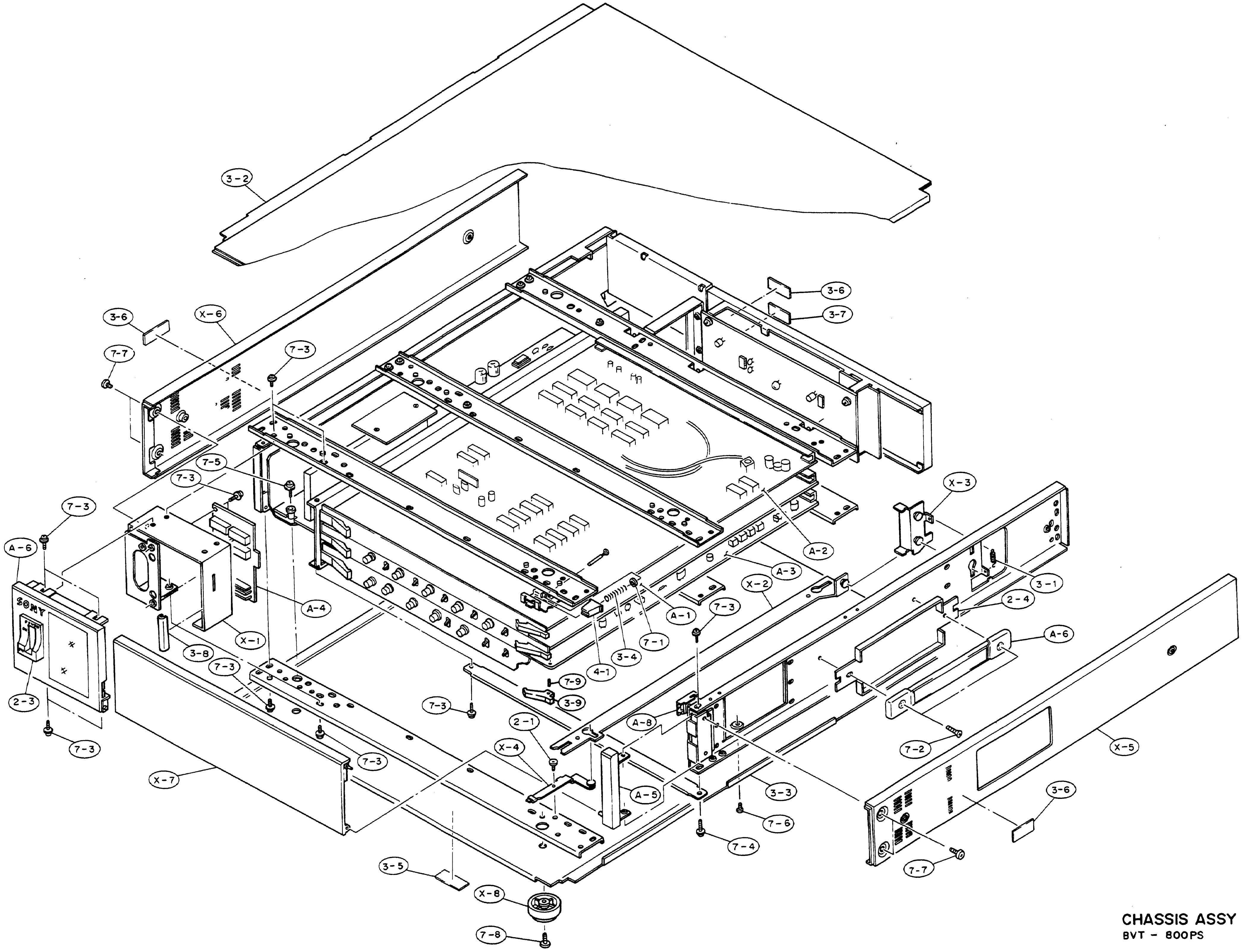
FRAME WIRING

BVT-800PS(FOR PAL); #10001–
BVT-800PS(FOR SECAM); #70001–
BVT-810P; #10001–

SECTION D
REPLACEABLE PARTS & OPTIONAL FIXTURES

CHASSIS ASSY (BVT-800PS)

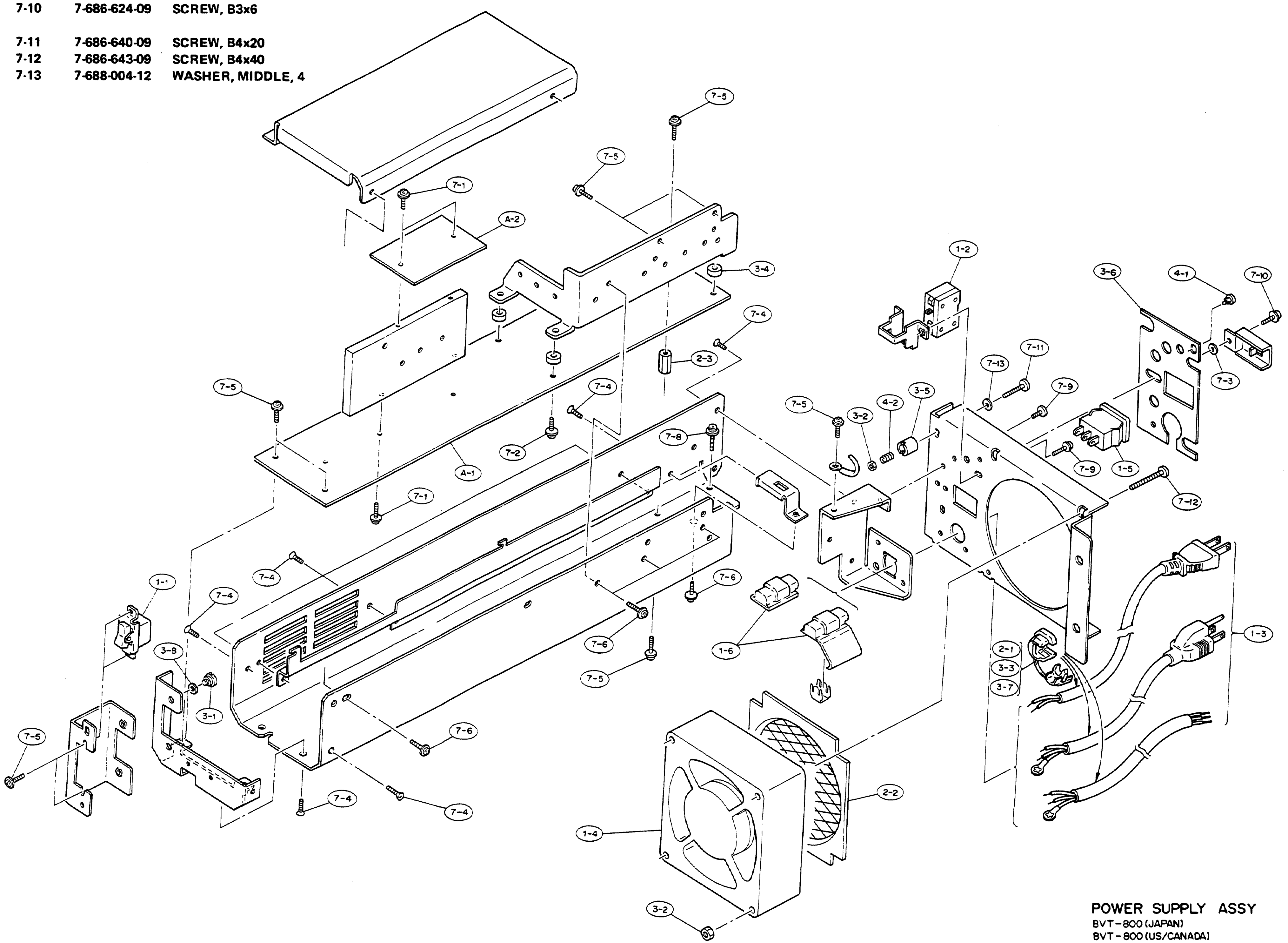
Ref. No.	Part No.	Description
A-1	A-6257-111-A	COMPLETE PCB, PR-40
A-2	A-6259-216-A	COMPLETE PCB, CK-11
A-3	A-6258-217-A	COMPLETE PCB, SG-67 (for PAL)
	A-6258-231-A	COMPLETE PCB, SG-68 (for SECAM)
A-4	A-6265-049-A	COMPLETE PCB, DP-24A
A-5	A-6273-067-A	PROTECTOR ASSY
A-6	A-6273-111-A	PANEL ASSY, INDICATOR
A-7	**X-2275-501-0**	**HANDLE ASSY**
A-8	X-3673-215-3	BRACKET ASSY, LOCK
X-1	X-3673-201-2	BRACKET ASSY, PANEL
X-2	X-3673-202-0	PLATE ASSY, STOPPER
X-3	X-3673-203-0	STOPPER ASSY
X-4	X-3673-207-0	LEVEL ASSY, STOPPER
X-5	X-3673-213-0	PANEL ASSY, RIGHT
X-6	X-3673-214-0	PANEL ASSY, LEFT
X-7	X-3673-217-0	PANEL ASSY, FRONT
X-8	**X-4310-310-0**	**FOOT ASSY**
2-1	**2-236-956-01**	**SCREW, STEP**
2-3	**2-251-642-00**	**GUARD, POWER SWITCH**
2-4	2-252-630-02	PLATE, ORNAMENTAL, HANDLE
3-1	3-555-121-00	SPRING, TENSION
3-2	3-673-268-00	LID, UPPER
3-3	3-673-269-00	LID, BOTTOM
3-4	3-673-281-00	SPRING, COMPRESSION
3-5	3-703-043-21	LABEL, CAUTION, MAIN
3-6	3-703-082-21	LABEL, CAUTION
3-7	3-659-964-01	LABEL, CAUTION, GROUND
3-8	3-678-515-02	EDGING, RUBBER
3-9	3-673-249-00	LEVER, PC BOARD
4-1	**4-335-962-00**	**BUTTON, PUSH**
7-1	**7-624-104-04**	**STOP RING, 2.0**
7-2	**7-682-264-09**	**SCREW, +K 4X14**
7-3	**7-686-527-01**	**SCREW, PSW 3X6**
7-4	**7-686-528-01**	**SCREW, PSW 3X8**
7-5	**7-686-530-01**	**SCREW, PSW 3X12**
7-6	**7-686-622-09**	**SCREW, B 3X4**
7-7	**7-686-634-09**	**SCREW, B 4X6**
7-8	**7-686-637-09**	**SCREW, B 4X12**
7-9	7-626-320-11	PIN, SPRING 3X8



CHASSIS ASSY
BVT - 800PS

POWER SUPPLY ASSY (BVT-800/PS)

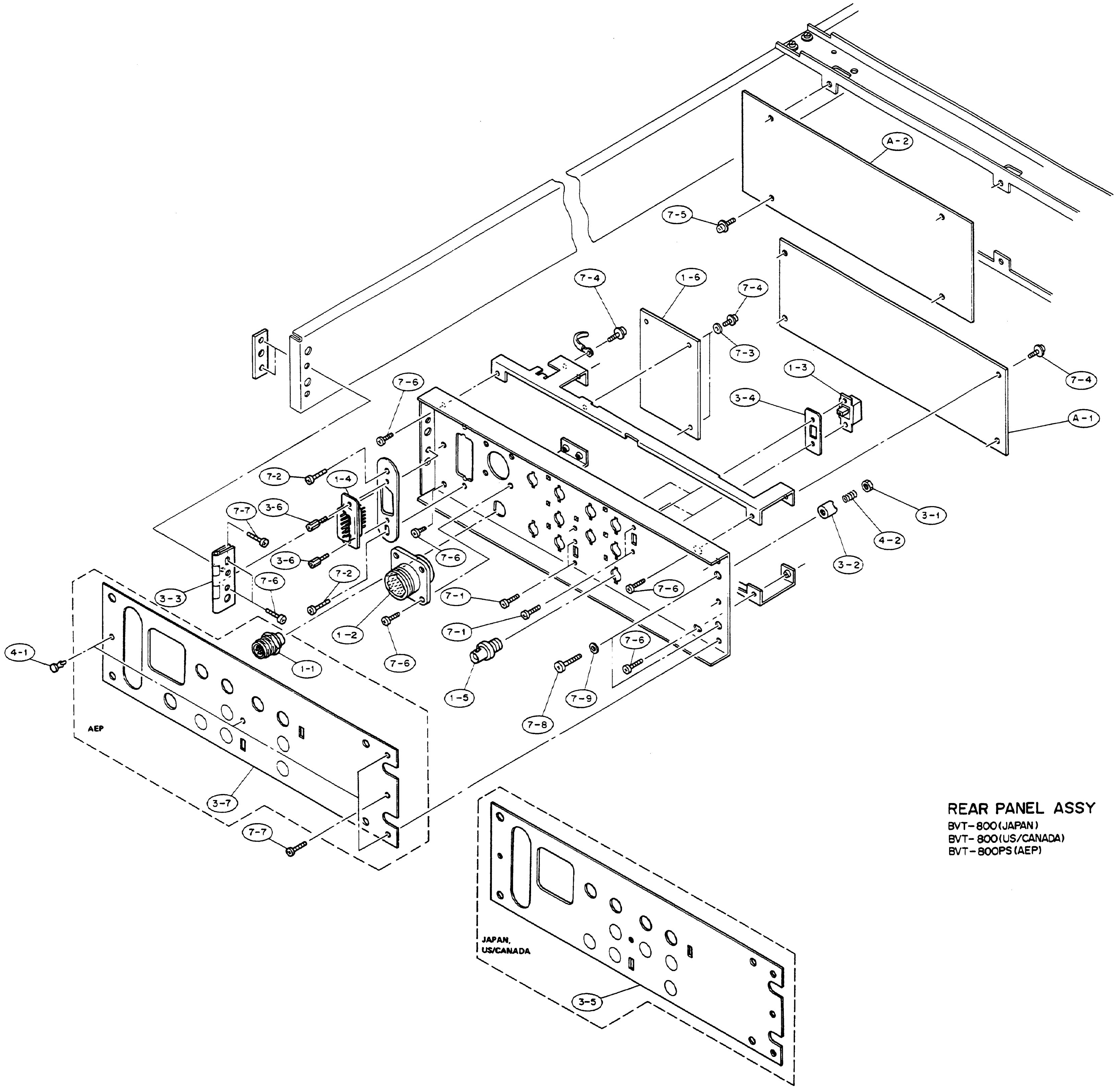
Ref. No.	Part No.	Description
A-1	A-6263-036-A	COMPLETE PCB, PW-91 (for Japan, US/Canada)
	A-6263-042-A	COMPLETE PCB, PW-91A (for AEP)
A-2	A-6263-037-A	COMPLETE PCB, CT-29
⚠ 1-1	**1-570-117-31**	**SWITCH, SEESAW**
⚠ 1-2	**1-532-534-31**	**BREAKER, CIRCUIT, AC250V, 1.6A**
⚠ 1-3	**1-534-517-00**	**CORD, POWER (for US/Canada)**
	1-534-535-14	**CORD, POWER (for Japan)**
	1-556-559-31	**CORD, POWER (for AEP)**
1-4	**1-541-170-00**	**MOTOR, FAN, DC**
⚠ 1-5	**1-554-011-00**	**SWITCH, ROCKER**
⚠ 1-6	1-563-112-11	CONNECTOR, DIVERGE
⚠ 2-1	**2-234-904-00**	**STOPPER, CORD (for Japan)**
2-2	2-252-609-00	COVER, FAN
2-3	2-280-622-11	SUPPORT, HEXAGON
3-1	**3-630-415-00**	**SCREW, STEP**
3-2	3-680-316-00	NUT, NYLON, 4
⚠ 3-3	**3-649-728-00**	**STOPPER, CORD (for US/Canada)**
3-4	**3-650-188-00**	**COLLAR, 6mm DIA**
3-5	3-651-849-00	SPACER, PANEL
3-6	3-673-211-00	PANEL, RIGHT CONNECTOR
⚠ 3-7	**3-673-298-00**	**STOPPER, CORD (for AEP)**
3-8	**3-701-443-21**	**WASHER, NYLON, 5**
4-1	**4-812-134-11**	**RIVET, NYLON, 3.5**
4-2	3-303-890-01	SPRING, COMPRESSION
7-1	**7-621-981-25**	**SCREW, PSW 2.6x8**
7-2	**7-621-981-35**	**SCREW, PSW 2.6x10**
7-3	**7-623-923-11**	**WASHER, NYLON, 2.6**
7-4	**7-682-247-09**	**SCREW, + K 3x6**
7-5	**7-686-527-01**	**SCREW, PSW 3x6**
7-6	**7-686-528-01**	**SCREW, PSW 3x8**
7-8	**7-686-548-01**	**SCREW, PSW 4x8 (for US/Canada, AEP)**
7-9	**7-686-623-09**	**SCREW, B3x5**
7-10	**7-686-624-09**	**SCREW, B3x6**
7-11	**7-686-640-09**	**SCREW, B4x20**
7-12	**7-686-643-09**	**SCREW, B4x40**
7-13	**7-688-004-12**	**WASHER, MIDDLE, 4**



POWER SUPPLY ASSY
BVT-800 (JAPAN)
BVT-800 (US/CANADA)
BVT-800PS (AEP)

REAR PANEL ASSY (BVT-800/PS)

Ref. No.	Part No.	Description
A-1	A-6257-101-A	COMPLETE PCB, IV-4 (for Japan, US/Canada)
	A-6257-112-A	COMPLETE PCB, IV-4A (for AEP)
A-2	A-6265-046-A	COMPLETE PCB, MB-16 (for Japan, US/Canada)
	A-6265-050-A	COMPLETE PCB, MB-35 (for AEP)
1-1	**1-508-945-00**	**RECEPTACLE, 7P, MALE**
1-2	**1-509-470-00**	**RECEPTACLE, 18P, MALE**
1-3	**1-552-822-00**	**SWITCH, SLIDE**
1-4	**1-560-495-00**	**RECEPTACLE, D-SUB 15P, MALE**
1-5	**1-561-781-21**	**RECEPTACLE, BNC**
1-6	1-605-785-00	PC BOARD, CN-46
3-1	3-680-316-00	NUT, NYLON, 4
3-2	3-651-849-00	SPACER, PANEL
3-3	3-658-816-00	HINGE, FRONT
3-4	3-673-205-00	SPACER, SWITCH
3-5	3-673-261-00	PANEL, CONNECTOR (for Japan, US/Canada)
3-6	3-673-910-00	SCREW, CONNECTOR
3-7	3-678-501-00	PANEL, CONNECTOR (for AEP)
4-1	**4-812-134-11**	**RIVET, NYLON, 3.5**
4-2	3-303-890-01	SPRING, COMPRESSION
7-1	**7-621-555-30**	**SCREW, + K 2x5**
7-2	**7-621-912-30**	**SCREW, B2.6x6**
7-3	**7-623-924-11**	**WASHER, NYLON, 3**
7-4	**7-686-527-01**	**SCREW, PSW 3x6**
7-5	**7-686-528-01**	**SCREW, PSW 3x8**
7-6	**7-686-623-09**	**SCREW, B3x5**
7-7	**7-686-624-09**	**SCREW, B3x6**
7-8	**7-686-640-09**	**SCREW, B4x20**
7-9	**7-688-004-12**	**WASHER, MIDDLE, 4**



REAR PANEL ASSY
BVT-800(JAPAN)
BVT-800(US/CANADA)
BVT-800PS(AEP)

SG-67 BOARD (BVT-800PS/BKT-801) FOR PAL

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6259-217-A	COMPLETE PCB, SG-67

If the SG-67 complete circuit board is not available, order as a BKT-801.

(This assembly includes the following parts.)

Ref. No. or Q'ty	Part No.	Description
C59	**1-102-114-00**	**CAP, CERAMIC 470PF 10% 50V**
C39	**1-107-076-00**	**CAP, MICA 43PF 5% 50V**
C11, 207, 208, 258, 259	**1-107-081-00**	**CAP, MICA 68PF 5% 50V**
C245	**1-107-083-00**	**CAP, MICA 82PF 5% 50V**
C67, 279, 281, 282, 284, 285, 287, 554, 567, 568	**1-107-085-00**	**CAP, MICA 100PF 5% 50V**
C28	**1-107-157-00**	**CAP, MICA 27PF 5% 500V**
C256, 512, 513, 537, 538	**1-107-159-00**	**CAP, MICA 33PF 5% 500V**
C88	**1-107-202-00**	**CAP, MICA 10PF 5% 500V**
C10, 40	**1-107-206-00**	**CAP, MICA 15PF 5% 500V**
C231, 235, 254, 273, 524, 548	**1-107-210-00**	**CAP, MICA 22PF 5% 500V**
C33, 520, 544	**1-109-539-00**	**CAP, MICA 150PF 5% 100V**
C244	**1-109-540-00**	**CAP, MICA 180PF 5% 100V**
C505, 530	**1-109-547-00**	**CAP, MICA 330PF 5% 100V**
C556	**1-109-549-00**	**CAP, MICA 390PF 5% 100V**
C260, 261	**1-109-553-00**	**CAP MICA 470PF 5% 100V**
C68	**1-109-555-00**	**CAP, MICA 560PF 5% 100V**
C222	**1-109-747-00**	**CAP, MICA 23PF +/−0.5PF 100V**
C228	**1-109-753-00**	**CAP, MICA 57PF 1% 100V**
C226	**1-109-756-00**	**CAP, MICA 76PF 1% 100V**
C224	**1-109-758-00**	**CAP, MICA 83PF 1% 100V**
C507, 532	**1-109-759-00**	**CAP, MICA 91PF 1% 100V**
C221	**1-109-768-00**	**CAP, MICA 139PF 1% 100V**
C223	**1-109-770-00**	**CAP, MICA 185PF 1% 100V**
C227	**1-109-787-00**	**CAP, MICA 66PF 1% 100V**
C225	**1-109-793-00**	**CAP, MICA 256PF 1% 100V**
C229	**1-109-796-00**	**CAP, MICA 823PF 1% 100V**
C46	**1-123-332-00**	**CAP, ELECT 47 25V**
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
C12, 15, 22, 24, 42, 51, 62, 71, 78, 80, 81, 209, 257, 262	**1-123-342-00**	**CAP, ELECT 22 35V**
C2, 4, 6, 8	**1-123-344-00**	**CAP, ELECT 47 35V**
C27, 64, 69, 74, 82, 246, 280, 286, 290, 291	**1-130-471-00**	**CAP, MYLAR 0.001 5% 50V**
C49	**1-130-473-00**	**CAP, MYLAR 0.0015 5% 50V**
C26, 210, 278, 283, 515	**1-130-475-00**	**CAP, MYLAR 0.0022 5% 50V**
C18, 20, 200	**1-130-483-00**	**CAP, MYLAR 0.01 5% 50V**
C14, 17	**1-130-487-00**	**CAP, MYLAR 0.022 5% 50V**
C72	**1-130-489-00**	**CAP, MYLAR 0.033 5% 50V**
C34, 263	**1-130-491-00**	**CAP, MYLAR 0.047 5% 50V**
C43, 45, 54, 247	**1-130-495-00**	**CAP, MYLAR 0.1 5% 50V**
C240, 243, 521, 522, 545, 546	**1-131-347-00**	**CAP, TANT 1 10% 35V**
C32, 294	**1-131-355-00**	**CAP, TANT 2.2 10% 25V**
C47, 55	**1-131-359-00**	**CAP, TANT 10 10% 25V**
C201, 202, 214, 216, 218, 230, 242, 264, 265, 502, 527, 552, 558, 560, 563	**1-131-373-00**	**CAP, TANT 22 10% 16V**
C56, 238, 250, 270, 274	**1-161-039-00**	**CAP, CERAMIC 0.001 10% 50V**
C1, 3, 5, 7, 13, 16, 19, 21, 23, 25, 29, 30, 31, 35, 36, 37, 38, 41, 44, 48, 50, 52, 53, 57, 58, 60, 61, 63, 65, 66, 70, 73, 75, 76, 77, 79, 83, 84, 85, 86, 87, 89, 203, 204, 205, 206, 211, 212, 213, 215, 217, 219, 220, 232, 233, 234, 236, 237, 239, 241, 248, 249, 251, 252, 253, 255, 266, 267, 268, 269, 271, 272, 275, 276, 277, 288, 289, 292, 293, 295, 296, 297, 300, 301, 302, 500, 501, 503, 504, 506, 508, 509, 510, 511, 514, 516, 517, 518, 519, 523, 525, 526, 528, 529, 531, 533, 534, 535, 536, 539, 540, 541 542, 543, 547, 549, 550, 551, 553, 555, 557, 559 561, 562, 564, 565, 566, 569, 570, 571, 572	**1-161-055-00**	**CAP, CERAMIC 0.022 10% 50**
C9	**1-161-897-31**	**CAP, CERAMIC 0.33 50V**
R265	**1-214-084-00**	**RES, METAL 10 1% 1/4W**

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
R101, 368, 369	1-214-096-00	RES, METAL 33 1% 1/4W
R2, 4, 5, 7, 10, 209, 213, 216, 220, 223, 245, 251, 255, 258, 260, 262, 501, 572, 573, 598, 605, 606, 609	1-214-100-00	RES, METAL 47 1% 1/4W
R282, 313, 334, 361, 512, 545	1-214-101-00	RES, METAL 51 1% 1/4W
R102, 201, 204, 247, 269, 270, 612, 613	1-214-105-00	RES, METAL 75 1% 1/4W
R12, 16, 67, 240, 243, 267, 281, 283, 287, 306, 312, 314, 332, 333, 335, 336, 337, 338, 356, 360, 362, 398, 510, 511, 514, 517, 520, 543, 544, 547, 550, 553, 611	1-214-108-00	RES, METAL 100 1% 1/4W
R25	1-214-111-00	RES, METAL 130 1% 1/4W
R205, 322, 323, 577, 578, 619, 620	1-214-112-00	RES, METAL 150 1% 1/4W
R597	1-214-115-00	RES, METAL 200 1% 1/4W
R66, 233, 244, 327, 392, 393, 503	1-214-116-00	RES, METAL 220 1% 1/4W
R248	1-214-118-00	RES, METAL 270 1% 1/4W
R229, 230, 253, 254, 266, 509, 513, 542, 546, 567, 568, 575, 592, 593, 600, 601	1-214-119-00	RES, METAL 300 1% 1/4W
R236, 370, 505, 538	1-214-120-00	RES, METAL 330 1% 1/4W
R261	1-214-121-00	RES, METAL 360 1% 1/4W
R587	1-214-123-00	RES, METAL 430 1% 1/4W
R43, 45, 52, 58, 88, 103, 263, 386, 387	1-214-124-00	RES, METAL 470 1% 1/4W
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
R211, 212, 215, 218, 219, 225, 286, 288, 289, 304, 305, 307, 326, 328, 354, 355, 357, 359, 367, 500, 504, 507, 515, 537, 540, 548	1-214-125-00	RES, METAL 510 1% 1/4W
R259, 264, 279, 280, 290, 291, 309, 310, 363, 364, 371, 535, 536, 624	1-214-127-00	RES, METAL 620 1% 1/4W
R100, 278, 284, 591	1-214-129-00	RES, METAL 750 1% 1/4W
R519, 552	1-214-131-00	RES, METAL 910 1% 1/4W
R22, 23, 24, 32, 33, 46, 57, 73, 77, 97, 208, 235, 238, 250, 256, 257, 345, 346, 516, 521, 549, 554, 588, 589, 595, 608	1-214-132-00	RES, METAL 1K 1% 1/4W
R89, 297, 557	1-214-134-00	RES, METAL 1.2K 1% 1/4W
R93, 99, 224, 246, 252, 268, 271, 319, 350, 502, 582, 610, 617	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R3, 8, 11	1-214-138-00	RES, METAL 1.8K 1% 1/4W
R6, 27, 28	1-214-139-00	RES, METAL 2.0K 1% 1/4W
R35, 90, 92, 210, 214, 217, 221, 227, 228, 234, 275, 276, 277, 303, 311, 315, 317, 318, 320, 330, 331, 343, 353, 365, 366, 527, 533, 534, 559, 565, 566, 583, 594, 599, 616	1-214-140-00	RES, METAL 2.2K 1% 1/4W
R9	1-214-141-00	RES, METAL 2.4K 1% 1/4W
R26, 37, 39, 524, 528, 529, 560, 561	1-214-142-00	RES, METAL 2.7K 1% 1/4W
R20, 21, 29, 51, 54, 60, 62, 64, 68, 69, 72, 86, 104, 241, 294, 302, 321, 349, 352, 372, 373, 382, 388, 390, 400, 402, 508, 518, 526, 541, 551, 581, 584, 586, 596, 618	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R98, 242	1-214-145-00	RES, METAL 3.6K 1% 1/4W
R325, 580, 622	1-214-146-00	RES, METAL 3.9K 1% 1/4W
R525, 558	1-214-147-00	RES, METAL 4.3K 1% 1/4W

(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)

Ref. No. or Q'ty	Part No.	Description
R202, 203, 237, 285, 292, 299, 300, 308, 329, 339, 341, 358, 394, 395, 397, 523, 556, 570, 571, 574, 603, 604	1-214-148-00	RES, METAL 4.7K 1% 1/4W
R44, 48, 49, 65, 84, 623	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R61	1-214-150-00	RES, METAL 5.6K 1% 1/4W
R590, 607	1-214-151-00	RES, METAL 6.2K 1% 1/4W
R78, 226, 239, 249, 295	1-214-152-00	RES, METAL 6.8K 1% 1/4W
R42, 47	1-214-153-00	RES, METAL 7.5K 1% 1/4W
R207, 324, 380, 579, 621	1-214-154-00	RES, METAL 8.2K 1% 1/4W
R232	1-214-155-00	RES, METAL 9.1K 1% 1/4W
R18, 76, 222, 231, 272, 273, 274, 298, 301, 340, 342, 351, 376, 381, 383, 384, 385, 389, 391, 522, 555	1-214-156-00	RES, METAL 10K 1% 1/4W
R34, 50, 56, 59, 293	1-214-160-00	RES, METAL 15K 1% 1/4W
R375, 614, 615	1-214-162-00	RES, METAL 18K 1% 1/4W
R40, 74	1-214-163-00	RES, METAL 20K 1% 1/4W
R31, 296, 344, 374	1-214-164-00	RES, METAL 22K 1% 1/4W
R53, 55, 85, 585	1-214-165-00	RES, METAL 24K 1% 1/4W
R79	1-214-166-00	RES, METAL 27K 1% 1/4W
R63, 83, 347, 379, 531, 563	1-214-168-00	RES, METAL 33K 1% 1/4W
R378	1-214-169-00	RES, METAL 36K 1% 1/4W
R91	1-214-170-00	RES, METAL 39K 1% 1/4W
R94, 200, 206, 377, 396, 530, 562	1-214-172-00	RES, METAL 47K 1% 1/4W
R30, 38	1-214-173-00	RES, METAL 51K 1% 1/4W
R87	1-214-175-00	RES, METAL 62K 1% 1/4W
R17, 36, 41, 75, 80, 82, 348, 399, 401, 506, 532, 539, 564, 602	1-214-180-00	RES, METAL 100K 1% 1/4W
RV507	1-228-288-00	RES, VAR, METAL 100
RV200	1-228-289-00	RES, VAR, METAL 200
RV203	1-228-291-00	RES, VAR, METAL 1K
RV210, 501, 503	1-228-292-00	RES, VAR, METAL 2K
RV8, 202, 207, 504	1-228-293-00	RES, VAR, METAL 5K
RV9, 201, 506, 508	1-228-294-00	RES, VAR, METAL 10K
RV6, 7, 206, 208, 209, 500, 502	1-228-295-00	RES, VAR, METAL 20K
RV204, 205	1-228-296-00	RES, VAR, METAL 50K
RV1, 2, 3, 4, 5	1-230-740-21	RES, VAR, CARBON 5K
RB1, 2	1-231-450-00	RES BLOCK, 3.3KX8
RB200, 201, 202, 500	1-231-504-00	RES BLOCK, 620X4
BP502	1-235-168-00	FILTER, BAND PASS, 4.43MHz
BP200	1-235-199-00	FILTER, BAND PASS, 4.43MHz
BP500	1-235-200-00	FILTER, BAND PASS, 4.43MHz
BP501	1-235-201-00	FILTER, BAND PASS, 4.43MHz
BP202	1-235-202-00	FILTER, BAND PASS, 8.91MHz
LP201	1-235-203-00	FILTER, LOW PASS
LP200	1-235-204-00	FILTER, LOW PASS
LP202	1-235-205-00	FILTER, LOW PASS
CP200, 201, 202	1-235-206-00	CR BLOCK
BP201	1-235-207-00	FILTER, BAND PASS, 4.43MHz
R81	1-247-895-00	RES, CARBON 470K 5% 1/6W
R1, 13, 14, 15, 19, 70, 71, 95, 96	1-247-903-00	RES, CARBON 1.0M 5% 1/6W
LV200	1-407-569-00	COIL, VAR, 10
L6	1-407-923-00	INDUCTOR, MICRO 47 10%
L215	1-408-401-00	INDUCTOR, MICRO 2.2 5%
L212, 213, 214, 500, 501, 503, 504	1-408-409-00	INDUCTOR, MICRO 10 5%
L216	1-408-416-00	INDUCTOR, MICRO 39 5%
L5, 201, 206, 506	1-408-425-00	INDUCTOR, MICRO 220 5%

(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)

Ref. No. or Q'ty	Part No.	Description
L202, 203, 217, 218	1-408-427-00	INDUCTOR, MICRO 330 5%
L200	1-408-628-00	INDUCTOR 2.72
L502, 505	1-408-635-00	INDUCTOR 12.40
L209	1-408-637-00	INDUCTOR, 13.00
L211	1-408-862-00	INDUCTOR 6.18
L207	1-408-868-00	INDUCTOR 15.30
L208	1-408-869-00	INDUCTOR 15.70
L210	1-408-873-00	INDUCTOR 74.10
EQ200	1-415-299-00	DELAY LINE, 250 ns
EQ500	1-415-300-00	DELAY LINE, 320 ns
L1, 2, 3, 4	1-421-329-00	COIL, CHOKE
S5, 6	1-516-925-21	SWITCH, DIP, 8-CKT
CF200, 201	1-527-357-00	FILTER, CERAMIC, 5.36MHz
X1, 4, 200	1-527-585-00	VCO, CRYSTAL, 17.734475MHz
X3	1-527-729-00	VCO, CRYSTAL, 14.187500MHz
FB1, 2, 3, 4, 200, 201, 202, 203, 500, 501, 502, 503, 504, 505	1-535-178-00	FERRITE BEAD
S7, 200, 500	1-552-509-00	SWITCH, DIP, 1-CKT
S2	1-554-009-00	SWITCH, TOGGLE
S1, 3	1-554-010-00	SWITCH, TOGGLE
5 PCS	1-560-733-00	PIN, SHORT
2 PCS	1-561-832-00	SOCKET, SHORT
CF202, 203	1-567-066-00	FILTER, CERAMIC, 5.79MHz
X2	1-567-067-00	CRYSTAL, 17.734475MHz
X500	1-567-071-00	VCO, CRYSTAL, 11.5860MHz
X501	1-567-072-00	VCO, CRYSTAL, 12.2970MHz
S4	1-570-281-11	SWITCH, DIP
TH200	1-806-335-00	THERMISTOR, TMD1410H
5 PCS	2-282-313-11	KNOB, CONTROL
TP1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 500, 501, 502, 503, 504, 505, 506, 507, E1, 2, 3, 4, 200, 201, 202, 203, 500, 501, 502	3-657-235-00	TERMINAL, TP
2 PCS	3-673-249-00	LEVER, PC BOARD
5 PCS	7-621-737-08	SETSCREW, HEX. 2.6X3
6 PCS	7-621-912-20	SCREW, B 2.6X5
12 PCS	7-621-981-15	SCREW, PSW 2.6X6
2 PCS	7-626-320-11	PIN, SPRING 3X8
D202	8-712-540-06	DIODE 1T25-41

(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)

Ref. No. or Q'ty	Part No.	Description
D205, 206, 207	8-719-100-27	DIODE RD4.7E-B2
D8	8-719-101-98	DIODE 1SS97
D2, 505	8-719-139-07	DIODE RD3.9E
D204, 208, 209, 210, 503, 504	8-719-162-07	DIODE RD6.2E
D1, 3, 4, 5, 6, 7, 9, 10, 200, 201, 203, 500, 501, 502	8-719-815-55	DIODE 1S1555
Q7	8-729-023-69	TRANSISTOR 2N2369A
Q211, 212, 503, 504, 510, 511	8-729-110-53	TRANSISTOR 2SA1005
Q209, 213, 505	8-729-117-54	TRANSISTOR 2SA1175
Q200, 204, 205, 206, 207, 500, 501, 502, 512	8-729-606-32	TRANSISTOR 2SC2603
Q3, 4, 202, 208, 210, 214, 215, 506, 507, 508, 509	8-729-672-43	TRANSISTOR 2SC2724
IC1F, 4G	8-749-936-51	IC BX365A
IC2C, 3E, 9F	8-749-938-10	IC BX381
IC10Q, 10X	8-757-731-00	IC CX773A
IC10J	8-757-903-00	IC CX7903
IC1L, 1P, 1W, 2H, 2R, 2U, 2Z, 3K, 4K, 4W, 5G, 5K	8-759-000-05	IC MC1496G; MOTOROLA
IC4Z	8-759-001-16	IC MC10116L
IC3N	8-759-016-48	IC MC1648P
IC4S	8-759-100-71	IC UPC71A
IC1R	8-759-145-57	IC UPC4557C
IC3X	8-759-145-58	IC UPC4558C
IC10V	8-759-240-12	IC TC4012BP, CMOS
IC10U	8-759-240-40	IC TC4040BP, CMOS
IC2Y	8-759-301-02	IC HD10102
IC2F, 2X, 3G, 3M, 4M, 4X	8-759-301-31	IC HD10131
IC6B	8-759-374-58	IC HA17458GS
IC9W	8-759-618-41	IC M51841P
IC5S, 5W, 6E, 9N	8-759-900-00	IC SN74LS00N, TTL
IC3B, 5X, 6Y, 8M	8-759-900-04	IC SN74LS04N, TTL

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
IC5U	**8-759-900-08**	**IC SN74LS08N, TTL**
IC2B, 3C, 7U	**8-759-900-11**	**IC SN74LS11N, TTL**
IC4U, 7S, 8P	**8-759-900-13**	**IC SN74LS113AN, TTL**
IC10G	**8-759-900-20**	**IC SN74LS20N, TTL**
IC10M	**8-759-900-30**	**IC SN74LS30N, TTL**
IC3R	**8-759-900-59**	**IC HI1-0201**
IC5E, 6S, 7X, 8N, 9P	**8-759-900-74**	**IC SN74LS74AN, TTL**
IC5Q, 10N	**8-759-900-86**	**IC SN74LS86N, TTL**
IC6P, 7J, 8H, 10C	**8-759-901-23**	**IC SN74LS123N, TTL**
IC5D, 7Q, 8J	**8-759-901-63**	**IC SN74LS163AN, TTL**
IC1A, 3A, 4B, 5A, 8R, 8V, 10S	**8-759-901-64**	**IC SN74LS164N, TTL**
IC6Q, 9U	**8-759-901-75**	**IC SN74LS175N, TTL**
IC5Y, 10E	**8-759-901-91**	**IC SN74LS191N, TTL**
IC6F, 6U, 6W, 6X, 7W, 7Y, 8Z, 9T, 10W	**8-759-902-21**	**IC SN74LS221N, TTL**
IC8Q	**8-759-903-65**	**IC SN74LS365AN, TTL**
IC5P, 9S, 10L	**8-759-903-93**	**IC SN74LS393N, TTL**
IC3W, 6D, 9L	**8-759-906-01**	**IC TL601CP**
IC2S	**8-759-906-07**	**IC TL607CP**
IC1C, 4D	**8-759-907-60**	**IC UA760HC**
IC8K	**8-759-910-51**	**IC SN74S51N, TTL**
IC5C	**8-759-910-86**	**IC SN74S86N, TTL**
IC8U, 8Y	**8-759-911-33**	**IC SN74S133N, TTL**
IC8L	**8-759-911-75**	**IC SN74S175N, TTL**
IC1Z	**8-759-930-54**	**IC CA3054**
IC1B, 4C, 9J	**8-759-942-21**	**IC SN74221N, TTL**
IC10F	**8-759-942-65**	**IC SN74265N, TTL**
IC10D	**8-759-952-07**	**IC SN75207BN, TTL**
IC9K	**8-759-974-06**	**IC SN7406N, TTL**
IC7K	**8-759-974-74**	**IC SN7474N, TTL**

Ref. No. or Q'ty	Part No.	Description
(SG-67 BOARD, BVT-800PS/BKT-801 FOR PAL)		
IC1S, 3U, 4P, 7H, 9D, 10B, 10H	**8-759-990-82**	**IC TL082CP**
IC2T, 4R	**8-759-990-84**	**IC TL084CN**
Q201, 203, 216	**8-761-622-00**	**TRANSISTOR 2SC1636**
Q1, 2, 5, 6	**8-769-193-09**	**TRANSISTOR 2SK43-3**

(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)

Ref. No. or Q'ty	Part No.	Description
R26	1-214-111-00	RES, METAL 130 1% 1/4W
R128, 326, 328, 397, 399, 441, 442, 446	1-214-112-00	RES, METAL 150 1% 1/4W
R61, 105, 165, 166, 203, 204, 310, 312, 336, 382, 384, 407	1-214-116-00	RES, METAL 220 1% 1/4W
R436	1-214-118-00	RES, METAL 270 1% 1/4W
R145, 149, 150, 152, 160, 302, 434	1-214-119-00	RES, METAL 300 1% 1/4W
R172, 305, 376, 431, 448	1-214-120-00	RES, METAL 330 1% 1/4W
R122	1-214-123-00	RES, METAL 430 1% 1/4W
R40, 49, 54, 71, 343, 344, 413, 414	1-214-124-00	RES, METAL 470 1% 1/4W
R114, 115, 118, 121, 134, 136, 300, 430, 432	1-214-125-00	RES, METAL 510 1% 1/4W
R39, 143, 154	1-214-126-00	RES, METAL 560 1% 1/4W
R137, 138, 144, 148, 151	1-214-127-00	RES, METAL 620 1% 1/4W
R329, 401, 439	1-214-128-00	RES, METAL 680 1% 1/4W
R87	1-214-129-00	RES, METAL 750 1% 1/4W
R78	1-214-130-00	RES, METAL 820 1% 1/4W
R22, 24, 25, 28, 32, 34, 35, 36, 41, 42, 43, 44, 46, 56, 57, 84, 107, 109, 153, 161, 187, 188, 191, 192, 313, 315, 317, 318, 321, 323, 337, 339, 340, 346, 347, 355, 365, 370, 371, 372, 373, 386, 388, 389, 392, 394, 408, 409, 410, 416, 417, 444, 449, 458	1-214-132-00	RES, METAL 1K 1% 1/4W
R58, 86, 155, 303, 309, 330, 332, 349, 363, 381, 400, 403, 440	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R7, 8, 11, 113, 135	1-214-138-00	RES, METAL 1.8K 1% 1/4W

(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)

Ref. No. or Q'ty	Part No.	Description
R4, 167, 168, 183, 185, 354	1-214-139-00	RES, METAL 2.0K 1% 1/4W
R21, 77, 117, 120, 124, 130, 139, 140, 141, 142, 158, 163, 164, 200, 201, 304, 308, 320, 374, 375, 377, 380, 391, 418, 419, 426, 427	1-214-140-00	RES, METAL 2.2K 1% 1/4W
R9, 81	1-214-141-00	RES, METAL 2.4K 1% 1/4W
R27, 156, 361, 362, 367, 369	1-214-142-00	RES, METAL 2.7K 1% 1/4W
R50	1-214-143-00	RES, METAL 3K 1% 1/4W
R19, 47, 59, 63, 65, 67, 69, 70, 90, 72, 73, 80, 129, 173, 175, 209, 210, 217, 218, 219, 230, 231, 234, 331, 402, 438, 503	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R85, 327, 398, 433, 443	1-214-145-00	RES, METAL 3.6K 1% 1/4W
R157, 306, 324, 378, 395, 450	1-214-146-00	RES, METAL 3.9K 1% 1/4W
R108, 174, 205, 206, 208, 445, 501	1-214-148-00	RES, METAL 4.7K 1% 1/4W
R23, 60, 322, 393, 437	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R62	1-214-150-00	RES, METAL 5.6K 1% 1/4W
R334, 342, 405, 412	1-214-152-00	RES, METAL 6.8K 1% 1/4W
R341	1-214-153-00	RES, METAL 7.5K 1% 1/4W
R325, 396, 411, 447	1-214-154-00	RES, METAL 8.2K 1% 1/4W
R18, 126, 169, 170, 171, 180, 182, 202, 211, 345, 348, 360, 364, 415	1-214-156-00	RES, METAL 10K 1% 1/4W
R55, 199, 214, 335, 406, 422, 425	1-214-158-00	RES, METAL 12K 1% 1/4W
R53, 74, 184, 186, 333, 404	1-214-160-00	RES, METAL 15K 1% 1/4W
R195	1-214-162-00	RES, METAL 18K 1% 1/4W

SG-68 BOARD (BVT-800PS/BKT-802) FOR SECAM

Ref. No. or Q'ty	Part No.	Description
1 PC		COMPLETE PCB, SG-68

When the SG-68 complete circuit board is necessary, order a BKT-802.

(This assembly includes the following parts.)

Ref. No. or Q'ty	Part No.	Description
C332	1-102-106-00	CAP, CERAMIC 100PF 10% 50V
C50, 136	1-102-114-00	CAP, CERAMIC 470PF 10% 50V
C131, 132, 333, 337	1-107-075-00	CAP, MICA 39PF 5% 50V
C126	1-107-077-00	CAP, MICA 47PF 5% 50V
C15, 119	1-107-081-00	CAP, MICA 68PF 5% 50V
C57, 140, 142, 143, 145, 149, 150, 152, 353, 357, 371	1-107-085-00	CAP, MICA 100PF 5% 50V
C144, 320, 376	1-107-087-00	CAP, MICA 120PF 5% 50V
C402	1-107-157-00	CAP, MICA 27PF 5% 500V
C14	1-107-206-00	CAP, MICA 15PF 5% 500V
C31, 128	1-107-209-00	CAP, MICA 20PF 5% 500V
C133, 134, 382	1-109-539-00	CAP, MICA 150PF 5% 100V
C356	1-109-541-00	CAP, MICA 200PF 5% 100V
C110	1-109-547-00	CAP, MICA 330PF 5% 100V
C56, 355	1-109-549-00	CAP, MICA 390PF 5% 100V
C55	1-109-553-00	CAP, MICA 470PF 5% 100V
C69, 120, 358	1-123-332-00	CAP, ELECT 47 25V
C324, 349	1-123-341-00	CAP, ELECT 10 35V
C16, 21, 53, 58, 63, 65, 66, 107, 116, 301, 310, 334, 365, 387	1-123-342-00	CAP, ELECT 22 35V
C2, 5, 8, 11	1-123-344-00	CAP, ELECT 47 35V
C29, 61, 67, 146, 147, 148, 319, 321, 346, 373	1-130-471-00	CAP, MYLAR 0.001 5% 50V
C40	1-130-472-00	CAP, MYLAR 0.0012 5% 50V
C28, 36, 153	1-130-475-00	CAP, MYLAR 0.0022 5% 50V
C329, 331	1-130-479-00	CAP, MYLAR 0.0047 5% 50V
C18, 24, 304, 313, 328, 381	1-130-483-00	CAP, MYLAR 0.01 5% 50V
C19, 135	1-130-487-00	CAP, MYLAR 0.022 5% 50V

(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)

Ref. No. or Q'ty	Part No.	Description
C59	1-130-489-00	CAP, MYLAR 0.033 5% 50V
C33, 38, 46	1-130-495-00	CAP, MYLAR 0.1 5% 50V
C339, 388, 390, 391	1-131-342-00	CAP, TANT 0.15 10% 35V
C305, 306, 380, 389	1-131-347-00	CAP, TANT 1.0 10% 35V
C30, 154	1-131-355-00	CAP, TANT 2.2 10% 25V
C39, 47	1-131-359-00	CAP, TANT 10 10% 25V
C322, 345, 347, 370	1-131-371-00	CAP, TANT 10 10% 16V
C102, 118, 130, 307, 308, 314, 315, 318, 336, 338, 340, 374, 378, 379, 386, 393	1-131-373-00	CAP, TANT 22 10% 16V
C100	1-131-374-00	CAP, TANT 33 10% 16V
CV100	1-141-240-00	CAP, TRIMMER 20PF
C49	1-161-039-00	CAP, CERAMIC 0.001 10% 50V
C1, 3, 4, 6, 7, 9, 10, 12, 17, 20, 22, 23, 25, 26, 27, 32, 34, 37, 41, 42, 43, 44, 45, 48, 51, 52, 54, 60, 62, 64, 68, 70, 71, 101, 103, 104, 105, 106, 108, 109, 111, 112, 113, 114, 115, 117, 121, 122, 123, 124, 125, 127, 129, 137, 138, 139, 141, 151, 300, 302, 303, 309, 311, 312, 316, 317, 323, 325, 326, 327, 330, 335, 341, 342, 343, 344, 348, 350, 351, 352, 359, 360, 361, 362, 364, 366, 367, 369, 372, 375, 377, 383, 384, 385, 392, 394, 400, 401	1-161-055-00	CAP, CERAMIC 0.022 10% 50V
C13, 35	1-161-897-31	CAP, CERAMIC 0.33
R366, 368	1-208-252-00	RES, MICRO 50M
R351, 352, 353, 357, 358, 359	1-214-090-00	RES, METAL 18 1% 1/4W
R2, 3, 5, 6, 10, 104, 106, 116, 119, 123, 127, 131, 146, 147, 159, 301, 307, 316, 319, 379, 387, 390, 428, 429, 435	1-214-100-00	RES, METAL 47 1% 1/4W
R110, 176	1-214-101-00	RES, METAL 51 1% 1/4W
R89, 102, 103, 125, 132, 162, 194, 454, 455	1-214-105-00	RES, METAL 75 1% 1/4W
R233	1-214-106-00	RES, METAL 82 1% 1/4W
R12, 16, 38, 66, 88, 111, 112, 177, 178	1-214-108-00	RES, METAL 100 1% 1/4W

(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)

Ref. No. or Q'ty	Part No.	Description
R179, 181	**1-214-163-00**	**RES, METAL 20K 1% 1/4W**
R30, 33, 45, 52, 76, 215, 350	**1-214-164-00**	**RES, METAL 22K 1% 1/4W**
R51	**1-214-165-00**	**RES, METAL 24K 1% 1/4W**
R198, 356, 423	**1-214-166-00**	**RES, METAL 27K 1% 1/4W**
R196, 420	**1-214-167-00**	**RES, METAL 30K 1% 1/4W**
R48, 64, 75, 189, 190, 424	**1-214-168-00**	**RES, METAL 33K 1% 1/4W**
R197	**1-214-169-00**	**RES, METAL 36K 1% 1/4W**
R212	**1-214-170-00**	**RES, METAL 39K 1% 1/4W**
R79, 82, 101, 213	**1-214-172-00**	**RES, METAL 47K 1% 1/4W**
R29	**1-214-173-00**	**RES, METAL 51K 1% 1/4W**
R37	**1-214-176-00**	**RES, METAL 68K 1% 1/4W**
R17, 31, 100, 193, 216, 311, 383, 457	**1-214-180-00**	**RES, METAL 100K 1% 1/4W**
RV101, 102, 310	**1-228-289-00**	**RES, VAR, METAL 200**
RV303	**1-228-291-00**	**RES, VAR, METAL 1K**
RV3, 300, 304, 305	**1-228-292-00**	**RES, VAR, METAL 2K**
RV4	**1-228-293-00**	**RES, VAR, METAL 5K**
RV5, 103, 104, 302, 307, 311	**1-228-294-00**	**RES, VAR, METAL 10K**
RV6, 100, 105, 106, 107, 108, 301, 306, 308, 312, 313	**1-228-295-00**	**RES, VAR, METAL 20K**
RV1, 2	**1-230-740-21**	**RES, VAR, CARBON 5K**
RB1, 2	**1-231-450-00**	**RES BLOCK, 3.3KX8**
BP200	**1-231-468-00**	**FILTER, BANDPASS, 4.28MHz**
BP300	**1-231-469-00**	**FILTER, BANDPASS, 4.3MHz**
BP201	**1-231-472-00**	**FILTER, BANDPASS, 4.43MHz**
LP200	**1-231-477-00**	**FILTER, LOW PASS**
RB100, 101, 102, 103, 300, 301, 302, 303	**1-231-504-00**	**RES BLOCK, 620X4**
CP200	**1-235-206-00**	**CR BLOCK**

(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)

Ref. No. or Q'ty	Part No.	Description
R314, 338, 385, 456	**1-247-887-00**	**RES, CARBON 220K 5% 1/6W**
R1, 13, 14, 15, 20, 68, 83	**1-247-903-00**	**RES, CARBON 1.0M 5% 1/6W**
LV100	**1-407-567-00**	**COIL, VAR, 4.7**
LV300	**1-407-569-00**	**COIL, VAR, 10**
L6	**1-408-020-00**	**INDUCTOR, MICRO 68 10%**
L100, 101, 102, 300, 301, 304, 305, 306, 307	**1-408-409-00**	**INDUCTOR, MICRO 10 5%**
L302, 303	**1-408-421-00**	**INDUCTOR, MICRO 100 5%**
L103, 104	**1-408-423-00**	**INDUCTOR, MICRO 150 5%**
L5	**1-408-425-00**	**INDUCTOR, MICRO 220 5%**
L1, 2, 3, 4	**1-421-329-00**	**COIL, CHOKE**
S3, 4	**1-516-925-21**	**SWITCH, DIP, 8-CKT**
CF1	**1-527-497-00**	**FILTER, CERAMIC, 4.55MHz**
X100	**1-527-512-00**	**CRYSTAL, 5.244141MHz**
X1	**1-527-729-00**	**VCO, CRYSTAL, 14.187500MHz**
FB1, 2, 3, 100, 300, 301	**1-535-178-00**	**FERRITE BEAD**
S5, 100	**1-552-509-00**	**SWITCH, DIP, 1-CKT**
S1, 2	**1-554-010-00**	**SWITCH, TOGGLE**
J2, 3, 4, 104, 304, 305	**1-560-733-00**	**PIN, SHORT**
J2, 3, 4, 104, 304, 305	**1-561-832-00**	**SOCKET, SHORT**
2 PCS	**2-282-313-11**	**KNOB, CONTROL**
TP1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 100, 101, 102, 103, 104, 105, 106, 107, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309 E1, 2, 3, 4, 100, 101, 102, 300, 301, 302, 303	3-657-235-00	TERMINAL, TP
2 PCS	3-673-249-00	LEVER, PC BOARD
2 PCS	**7-621-737-08**	**SETSCREW, HEX. 2.6X3**
6 PCS	**7-621-912-20**	**SCREW, B 2.6X5**
12 PCS	**7-621-981-15**	**SCREW, PSW 2.6X6**
2 PCS	**7-626-320-11**	**PIN, SPRING 3X8**
D105	**8-719-100-27**	**DIODE RD4.7E-B2**
D10	**8-719-101-98**	**DIODE 1SS97**
D2, 301, 303	**8-719-139-07**	**DIODE RD3.9E**

Ref. No. or Q'ty	Part No.	Description
(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)		
D300, 302	8-719-151-07	DIODE RD5.1E-B
D100	8-719-191-07	DIODE RD9.1E
D1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 101, 102, 103, 104	8-719-815-55	DIODE 1S1555
Q7	8-729-023-69	TRANSISTOR 2N2369A
Q110, 305, 307, 308, 314, 318	8-729-117-54	TRANSISTOR 2SA1175
Q100, 104, 109, 111, 300, 301, 302, 306, 310, 311, 321	8-729-606-32	TRANSISTOR 2SC2603
Q3, 4, 102, 105, 107, 108, 303, 304, 309, 312, 313, 315, 316, 319, 320	8-729-672-43	TRANSISTOR 2SC2724
IC5B	8-749-936-51	IC BX365A
IC7J, 9R	8-757-731-00	IC CX773A, C-MOS
IC8G	8-757-903-00	IC CX7903, C-MOS
IC1E, 1R, 2P, 3E, 5C	8-759-000-05	IC MC1496G; MOTOROLA
IC1A, 1Q, 3A, 3R, 5G	8-759-001-16	IC MC10116L, ECL
IC3N	8-759-001-98	IC MC10198L
IC1P, 7E	8-759-103-19	IC UPC319C
IC2Q	8-759-145-57	IC UPC4557C
IC9L	8-759-240-12	IC TC4012BP, C-MOS
IC8L	8-759-240-40	IC TC4040BP, C-MOS
IC3P, 3Q, 5F	8-759-301-02	IC HD10102, ECL
IC4A	8-759-301-07	IC HD10107, ECL
IC1C, 3C	8-759-608-52	IC CX852
IC4G	8-759-608-54	IC CX854
IC4H	8-759-608-55	IC CX855
IC9P	8-759-618-41	IC M51841P
IC301	8-759-700-14	IC NJM78M09A
IC5M, 5R, 6D, 9K	8-759-900-00	IC SN74LS00N, TTL
IC5L, 6T, 8K, 8S	8-759-900-04	IC SN74LS04N, TTL
IC4Q, 4R, 5N, 7Q	8-759-900-08	IC SN74LS08N, TTL

Ref. No. or Q'ty	Part No.	Description
(SG-68 BOARD, BVT-800PS/BKT-802 FOR SECAM)		
IC6F	8-759-900-10	IC SN74LS10N, TTL
IC6C	8-759-900-11	IC SN74LS11N, TTL
IC6L, 7T	8-759-900-13	IC SN74LS113AN, TTL
IC6E	8-759-900-20	IC SN74LS20N, TTL
IC7F	8-759-900-30	IC SN74LS30N, TTL
IC5Q, 6R, 8Q, 8T, 9D	8-759-900-74	IC SN74LS74AN, TTL
IC5P, 7H	8-759-900-86	IC SN74LS86N, TTL
IC6P, 8E, 9J	8-759-901-23	IC SN74LS123N, TTL
IC6M, 7R	8-759-901-63	IC SN74LS163AN, TTL
IC6G, 6H, 7M, 7S, 8M	8-759-901-64	IC SN74LS164N, TTL
IC6N, 7L	8-759-901-75	IC SN74LS175N, TTL
IC4S, 4T, 5S, 5T, 6A, 6B, 6J, 6S, 9N, 9Q	8-759-902-21	IC SN74LS221N, TTL
IC7K	8-759-903-65	IC SN74LS365AN, TTL
IC6Q, 7G	8-759-903-93	IC SN74LS393N, TTL
IC1H, 3H, 4N	8-759-905-77	IC HI1-200-5, C-MOS
IC1M, 9F	8-759-906-01	IC TL601CP, P-MOS
IC9E	8-759-906-69	IC SN74LS669N, TTL
IC7P, 8P	8-759-911-33	IC SN74S133N, TTL
IC8F	8-759-942-21	IC SN74221N, TTL
IC9C	8-759-942-65	IC SN74265N, TTL
IC8B	8-759-952-07	IC SN75207BN, TTL
IC5H, 8H	8-759-974-06	IC SN7406N, TTL
IC1N, 4J, 8C	8-759-990-82	IC TL082CP
IC1G, 3G, 4P, 5J, 9B	8-759-990-84	IC TL084CN
Q101, 103	8-761-622-00	TRANSISTOR 2SC1636
Q1, 2, 5, 6	8-769-193-09	TRANSISTOR 2SK43-3

PR-40 BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6257-111-A	COMPLETE PCB, PR-40

(This assembly includes the following parts.)

Ref. No. or Q'ty	Part No.	Description
C507	1-107-026-00	CAP, MICA 5.1PF +/–0.5PF 500V
C121, 611	1-107-048-00	CAP, MICA 6.8PF +/–0.5PF 500V
C514	1-107-077-00	CAP, MICA 47PF 5% 50V
C614	1-107-202-00	CAP, MICA 10PF 5% 500V
C201, 218, 233, 240, 548, 566, 567, 568, 569, 570, 571, 572, 573, 574, 590, 591, 592, 593, 594, 595, 596, 597, 604	1-107-211-00	CAP, MICA 24PF 5% 500V
C231, 581	1-109-527-00	CAP, MICA 47PF 5% 100V
C204	1-109-530-00	CAP, MICA 62PF 5% 100V
C156, 165	1-109-531-00	CAP, MICA 68PF 5% 100V
C194, 517	1-109-532-00	CAP, MICA 75PF 5% 100V
C146, 160	1-109-535-00	CAP, MICA 100PF 5% 100V
C234, 516, 537, 612	1-109-537-00	CAP, MICA 120PF 5% 100V
C116	1-109-540-00	CAP, MICA 180PF 5% 100V
C150, 609	1-109-547-00	CAP, MICA 330PF 5% 100V
C162	1-109-553-00	CAP, MICA 470PF 5% 100V
C143	1-109-554-00	CAP, MICA 510PF 5% 100V
C550	1-109-745-00	CAP, MICA 17PF +/–0.5PF 100V
C527	1-109-746-00	CAP, MICA 25PF +/–0.5PF 100V
C128	1-109-747-00	CAP, MICA 23PF +/–0.5PF 100V
C138	1-109-748-00	CAP, MICA 21PF +/–0.5PF 100V
C563	1-109-751-00	CAP, MICA 55PF 1% 100V
C555	1-109-754-00	CAP, MICA 65PF 1% 100V
C553	1-109-755-00	CAP, MICA 74PF 1% 100V
C132	1-109-756-00	CAP, MICA 76PF 1% 100V
C140, 142	1-109-757-00	CAP, MICA 79PF 1% 100V
C130, 561	1-109-758-00	CAP, MICA 83PF 1% 100V
C136, 560	1-109-761-00	CAP, MICA 92PF 1% 100V
C558	1-109-762-00	CAP, MICA 104PF 1% 100V
C549	1-109-764-00	CAP, MICA 122PF 1% 100V
C127	1-109-768-00	CAP, MICA 139PF 1% 100V
C141	1-109-769-00	CAP, MICA 166PF 1% 100V
C129	1-109-770-00	CAP, MICA 185PF 1% 100V
C134	1-109-771-00	CAP, MICA 85PF 1% 100V
C554	1-109-772-00	CAP, MICA 283PF 1% 100V
C552	1-109-773-00	CAP, MICA 314PF 1% 100V
C139	1-109-774-00	CAP, MICA 359PF 1% 100V
C562	1-109-779-00	CAP, MICA 480PF 1% 100V

(PR-40 BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
C557	1-109-780-00	CAP, MICA 660PF 1% 100V
C559	1-109-784-00	CAP, MICA 1408PF 1% 100V
C521	1-109-786-00	CAP, MICA 63PF 1% 100V
C133	1-109-787-00	CAP, MICA 66PF 1% 100V
C522	1-109-788-00	CAP, MICA 70PF 1% 100V
C523	1-109-789-00	CAP, MICA 82PF 1% 100V
C525	1-109-790-00	CAP, MICA 90PF 1% 100V
C528	1-109-791-00	CAP, MICA 150PF 1% 100V
C526	1-109-792-00	CAP, MICA 199PF 1% 100V
C131	1-109-793-00	CAP, MICA 256PF 1% 100V
C524	1-109-794-00	CAP, MICA 275PF 1% 100V
C137	1-109-795-00	CAP, MICA 445PF 1% 100V
C520	1-109-797-00	CAP, MICA 900PF 1% 100V
C135	1-109-798-00	CAP, MICA 1223PF 1% 100V
C124	1-123-307-00	CAP, ELECT 100 10V
C114, 115	1-123-330-00	CAP, ELECT 22 25V
C111, 126	1-123-332-00	CAP, ELECT 47 25V
C117, 123	1-123-341-00	CAP, ELECT 10 35V
C5, 6, 178, 179, 187, 198, 199, 216, 217, 227, 230, 239, 249, 250, 529, 530, 540, 541, 564, 577, 599, 610	1-123-343-00	CAP, ELECT 33 35V
C1, 2, 3, 4	1-123-345-00	CAP, ELECT 100 35V
C120, 190, 248, 576, 613	1-130-471-00	CAP, MYLAR 0.001 5% 50V
C235, 536, 584	1-130-475-00	CAP, MYLAR 0.0022 5% 50V
C154	1-130-479-00	CAP, MYLAR 0.0047 5% 50V
C118, 119, 144, 145, 152, 175	1-130-483-00	CAP, MYLAR 0.01 5% 50V
C153, 176, 513, 556	1-130-487-00	CAP, MYLAR 0.022 5% 50V
C147	1-131-345-00	CAP, TANT 0.47 10% 35V
C155, 191, 510, 511, 534, 535, 579, 580	1-131-349-00	CAP, TANT 2.2 10% 35V
C228, 229, 252, 253	1-131-351-00	CAP, TANT 4.7 10% 35V

(PR-40 BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
C173, 174, 188, 189	1-131-359-00	CAP, TANT 10 10% 25V
C171, 172, 226, 238	1-131-373-00	CAP, TANT 22 10% 16V
C110, 125	1-131-374-00	CAP, TANT 33 10% 16V
C7, 8, 9, 10, 11, 12, 101, 102, 103, 104, 105, 106, 107, 108, 109, 112, 113, 148, 149, 151, 157, 158, 159, 161, 163, 164, 166, 167, 169, 170, 177, 180, 181, 182, 183, 184, 185, 186, 192, 193, 195, 196, 197, 200, 202, 203, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 219, 220, 221, 222, 223, 224, 225, 232, 236, 237, 241, 242, 244, 245, 246, 247, 251, 501, 502, 503, 504, 505, 506, 508, 509, 512, 515, 518, 519, 531, 532, 533, 538, 539, 542, 543, 544, 545, 546, 547, 551, 565, 575, 578, 582, 583, 585, 586, 587, 588, 589, 598, 600, 601, 602, 603, 605, 606, 607, 608	1-161-055-00	CAP, CERAMIC 0.022 10% 50V
C513	1-161-894-00	CAP, CERAMIC 0.1 50V
R273	1-214-084-00	RES, METAL 10 1% 1/4W
R264, 276	1-214-086-00	RES, METAL 12 1% 1/4W
R227, 228, 244, 255, 267, 268	1-214-088-00	RES, METAL 15 1% 1/4W
R199, 236	1-214-090-00	RES, METAL 18 1% 1/4W
R271	1-214-092-00	RES, METAL 22 1% 1/4W
R607, 608	1-214-095-00	RES, METAL 30 1% 1/4W
R249, 259	1-214-096-00	RES, METAL 33 1% 1/4W
R144, 253, 261	1-214-097-00	RES, METAL 36 1% 1/4W
R102, 115, 117, 136, 187, 190, 195, 206, 208, 213, 214, 233, 504, 514, 538, 570, 650	1-214-100-00	RES, METAL 47 1% 1/4W
R170, 171	1-214-101-00	RES, METAL 51 1% 1/4W
R104, 113, 118, 137, 194, 231, 263, 274, 290, 291, 292, 293, 294, 295, 296, 297, 306, 307, 308, 309, 310, 311, 312, 313, 501, 502, 509, 513, 521, 522, 563, 597, 604, 643	1-214-105-00	RES, METAL 75 1% 1/4W
R126, 134, 141	1-214-106-00	RES, METAL 82 1% 1/4W
R537, 680	1-214-107-00	RES, METAL 91 1% 1/4W

(PR-40 BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
R131, 240, 542	1-214-108-00	RES, METAL 100 1% 1/4W
R101	1-214-109-00	RES, METAL 110 1% 1/4W
R247, 252, 257, 262, 560, 561, 605	1-214-110-00	RES, METAL 120 1% 1/4W
R260, 586, 587, 642	1-214-112-00	RES, METAL 150 1% 1/4W
R600	1-214-113-00	RES, METAL 160 1% 1/4W
R108, 582, 657	1-214-114-00	RES, METAL 180 1% 1/4W
R107, 140, 159, 161, 163, 186, 189, 217, 241, 284, 530, 531	1-214-116-00	RES, METAL 220 1% 1/4W
R512	1-214-117-00	RES, METAL 240 1% 1/4W
R193, 198, 232, 250	1-214-118-00	RES, METAL 270 1% 1/4W
R105, 106, 142, 205, 207, 519, 539, 562	1-214-119-00	RES, METAL 300 1% 1/4W
R646	1-214-120-00	RES, METAL 330 1% 1/4W
R110, 130, 180, 517, 536, 609, 623	1-214-121-00	RES, METAL 360 1% 1/4W
R591, 671, 672	1-214-122-00	RES, METAL 390 1% 1/4W
R175	1-214-123-00	RES, METAL 430 1% 1/4W
R111, 245, 246, 248, 254, 256, 258	1-214-124-00	RES, METAL 470 1% 1/4W
R182, 526	1-214-125-00	RES, METAL 510 1% 1/4W
R197, 235, 644	1-214-126-00	RES, METAL 560 1% 1/4W
R103, 225, 503, 515	1-214-127-00	RES, METAL 620 1% 1/4W
R185, 543, 564	1-214-128-00	RES, METAL 680 1% 1/4W
R123, 158, 511, 534	1-214-129-00	RES, METAL 750 1% 1/4W

(PR-40 BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
R520	1-214-130-00	RES, METAL 820 1% 1/4W
R203, 226, 314, 520	1-214-131-00	RES, METAL 910 1% 1/4W
R127, 133, 143, 146, 152, 153, 155, 160, 165, 167, 169, 188, 238, 251, 277, 316, 505, 507, 544, 677	1-214-132-00	RES, METAL 1K 1% 1/4W
R112, 272, 279, 305, 610, 611, 612, 613, 614, 615, 616, 617, 618, 662, 663, 664, 665, 666, 667, 668, 669, 670, 673,	1-214-133-00	RES, METAL 1.1K 1% 1/4W
R265, 270, 527, 641	1-214-134-00	RES, METAL 1.2K 1% 1/4W
R121, 209, 278, 302, 516, 568, 593, 648, 674	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R135, 304, 569, 649	1-214-137-00	RES, METAL 1.6K 1% 1/4W
R192, 215, 266, 269, 275, 535, 571, 592, 595, 596, 603, 651	1-214-138-00	RES, METAL 1.8K 1% 1/4W
R147, 149, 223, 525	1-214-139-00	RES, METAL 2.0K 1% 1/4W
R1, 125, 162, 177, 178, 285, 402, 510, 555, 640	1-214-140-00	RES, METAL 2.2K 1% 1/4W
R109, 116, 119, 150, 191, 210, 211, 216, 578, 601, 660	1-214-141-00	RES, METAL 2.4K 1% 1/4W
R132, 547, 559, 606	1-214-142-00	RES, METAL 2.7K 1% 1/4W
R174, 229, 230, 286, 299, 301, 401, 583, 658, 659, 661, 682	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R128, 280, 281, 602, 655	1-214-145-00	RES, METAL 3.6K 1% 1/4W
R218, 573, 654	1-214-146-00	RES, METAL 3.9K 1% 1/4W

(PR-40 BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
R196, 234, 288, 303, 506, 523, 567, 647, 676	1-214-147-00	RES, METAL 4.3K 1% 1/4W
R120, 554, 565, 588, 594, 645	1-214-148-00	RES, METAL 4.7K 1% 1/4W
R164, 221, 224, 237, 239, 243, 533	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R204, 242	1-214-151-00	RES, METAL 6.2K 1% 1/4W
R201, 551, 552	1-214-153-00	RES, METAL 7.5K 1% 1/4W
R129	1-214-154-00	RES, METAL 8.2K 1% 1/4W
R548	1-214-155-00	RES, METAL 9.1K 1% 1/4W
R138, 166, 172, 179, 181, 183, 300, 317, 572, 653	1-214-156-00	RES, METAL 10K 1% 1/4W
R114, 156, 212, 282, 633, 634	1-214-158-00	RES, METAL 12K 1% 1/4W
R528	1-214-159-00	RES, METAL 13K 1% 1/4W
R148, 508, 524, 545, 550, 553, 576, 577, 579, 656, 678	1-214-160-00	RES, METAL 15K 1% 1/4W
R124, 184, 574, 575, 581, 679	1-214-161-00	RES, METAL 16K 1% 1/4W
R589, 619, 639	1-214-163-00	RES, METAL 20K 1% 1/4W
R151, 681	1-214-164-00	RES, METAL 22K 1% 1/4W
R287, 624, 635	1-214-165-00	RES, METAL 24K 1% 1/4W
R122, 598	1-214-166-00	RES, METAL 27K 1% 1/4W
R139, 145, 154, 157, 580	1-214-168-00	RES, METAL 33K 1% 1/4W
R176	1-214-170-00	RES, METAL 39K 1% 1/4W
R675	1-214-171-00	RES, METAL 43K 1% 1/4W
R168	1-214-172-00	RES, METAL 47K 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
R220, 283, 529, 590, 638	**1-214-173-00**	**RES, METAL 51K 1% 1/4W**
R585	**1-214-177-00**	**RES, METAL 75K 1% 1/4W**
R222, 546, 636	**1-214-180-00**	**RES, METAL 100K 1% 1/4W**
RV102	**1-228-290-00**	**RES, VAR, METAL 500**
RV101, 104, 108, 110, 503	**1-228-291-00**	**RES, VAR, METAL 1K**
RV107	**1-228-292-00**	**RES, VAR, METAL 2K**
RV105	**1-228-293-00**	**RES, VAR, METAL 5K**
RV103	**1-228-294-00**	**RES, VAR, METAL 10K**
RV106, 109, 501, 504, 505, 506, 508, 509	**1-228-295-00**	**RES, VAR, METAL 20K**
RV1	**1-230-738-21**	**RES, VAR, CARBON 200**
RV2, 3, 4, 5	**1-230-740-21**	**RES, VAR, CARBON 5K**
RB502, 503, 505, 508	**1-231-450-00**	**RES BLOCK, 3.3KX8**
RB506	**1-231-504-00**	**RES BLOCK, 620X4**
RB102, 103, 104, 105	**1-231-509-00**	**RES BLOCK, 1K**
RB101, 106, 504	**1-231-521-00**	**RES BLOCK, 3.3KX4**
RB501, 507	**1-235-128-00**	**RES BLOCK, 1.5K**
RB1	**1-235-130-00**	**RES BLOCK, 680K**
CP501	**1-235-206-00**	**CR BLOCK**
R315, 532	**1-247-895-00**	**RES, CARBON 470K 5% 1/6W**
R200, 202, 566, 652	**1-247-900-00**	**RES, CARBON 750K 5% 1/6W**
R219, 549	**1-247-901-00**	**RES, CARBON 820K 5% 1/6W**
R173	**1-247-903-00**	**RES, CARBON 1.0M 5% 1/6W**
L115	**1-408-419-00**	**INDUCTOR, MICRO 68 5%**
L101, 102	**1-408-421-00**	**INDUCTOR, MICRO 100 5%**
L103	**1-408-425-00**	**INDUCTOR, MICRO 220 5%**
L513	**1-408-624-00**	**INDUCTOR 1.25**
L507	**1-408-626-00**	**INDUCTOR 2.28**
L506	**1-408-627-00**	**INDUCTOR 2.49**
L114	**1-408-628-00**	**INDUCTOR 2.72**
L512	**1-408-629-00**	**INDUCTOR 5.03**

Ref. No. or Q'ty	Part No.	Description
(PR-40 BOARD, BVT-800PS)		
L510	**1-408-631-00**	**INDUCTOR 6.30**
L511	**1-408-632-00**	**INDUCTOR 6.36**
L514	**1-408-633-00**	**INDUCTOR 10.80**
L111, 112	**1-408-635-00**	**INDUCTOR 12.40**
L106	**1-408-637-00**	**INDUCTOR 13.00**
L508	**1-408-648-00**	**INDUCTOR 14.80**
L509	**1-408-649-00**	**INDUCTOR 31.70**
L113	**1-408-650-00**	**INDUCTOR 32.30**
L116	**1-408-863-00**	**INDUCTOR 6.57**
L505	**1-408-864-00**	**INDUCTOR 6.82**
L108	**1-408-865-00**	**INDUCTOR 8.79**
L109	**1-408-866-00**	**INDUCTOR 9.23**
L502	**1-408-867-00**	**INDUCTOR 14.00**
L104	**1-408-868-00**	**INDUCTOR 15.30**
L105	**1-408-869-00**	**INDUCTOR 15.70**
L504	**1-408-870-00**	**INDUCTOR 16.40**
L503	**1-408-871-00**	**INDUCTOR 16.90**
L110	**1-408-872-00**	**INDUCTOR 40.00**
L501	**1-408-874-00**	**INDUCTOR 81.00**
L107	**1-408-875-00**	**INDUCTOR 110**
L1, 2, 3, 4	**1-421-329-00**	**COIL, CHOKE**
T101, 102	**1-446-330-00**	**TRANSOFMER, PULSE**
FB1, 2, 3, 4, 5, 6, 7, 8, 101, 102, 103, 104, 105, 106, 501, 502	**1-535-178-00**	**FERRITE BEAD**
S101	**1-552-509-00**	**SWITCH, DIP, 1-CKT**
S1, 2, 3, 4, 5	**1-554-010-00**	**SWITCH, TOGGLE**
VCO501	**1-567-070-00**	**VCO, CRYSTAL, 10.8750MHz**
S6	**1-570-281-11**	**SWITCH, DIP**
5 PCS	**2-282-313-11**	**KNOB, CONTROL**
TP101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 501, 502, 503, 504, 505, 506, 507 E101, 102, 103, 104, 105, 106, 107, 108, 501, 502, 503, 504, 505, 506, 507	3-657-235-00	TERMINAL, TP
1 PC	3-673-249-01	LEVER, PC BOARD
5 PCS	**7-621-737-08**	**SETSCREW, HEX. 2.6X3**
6 PCS	**7-621-912-20**	**SCREW, B 2.6X5**
12 PCS	**7-621-981-15**	**SCREW, PSW 2.6X6**
2 PCS	**7-626-320-11**	**PIN, SPRING 3X8**
D106, 107	**8-719-101-98**	**DIODE 1SS97**
D115	**8-719-102-52**	**DIODE 1SZ52**
D101	**8-719-116-07**	**DIODE RD16E-B**
D502	**8-719-151-07**	**DIODE RD5.1E-B**

(PR-40 BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
D102, 103, 104, 105, 108, 109, 110, 111, 112, 113, 503	**8-719-815-55**	**DIODE 1S1555**
D114, 120, 125, 126, 127, 501	**8-719-815-80**	**DIODE 1S1587**
D116, 117, 118, 119, D121, 122, 123, 124	**8-719-101-98**	**DIODE 1SS97**
Q134	**8-729-113-32**	**TRANSISTOR 2SB733**
Q101, 102, 106, 107, 115, 121, 122, 504, 511, 513, 516	**8-729-117-54**	**TRANSISTOR 2SA1115**
Q131, 136	**8-729-353-00**	**TRANSISTOR 2SA530H**
Q124, 126, 130, 132, 133, 135, 137, 140, 503, 510, 515	**8-729-368-90**	**TRANSISTOR 2SC689H**
Q103, 104, 105, 108, 109, 110, 111, 112, 116, 117, 118, 123, 125, 127, 502	**8-729-672-43**	**TRANSISTOR 2SC2724**
Q505	**8-729-699-51**	**TRANSISTOR 2SA995**
IC101, 116, 118, 501, 503, 511	**8-749-936-51**	**IC BX365A**
IC504, 512	**8-752-005-11**	**IC CX20051A**
IC121, 124	**8-752-005-20**	**IC CX20052**
IC529, 530	**8-759-000-05**	**IC MC1496G; MOTOROLA**
IC108, 115	**8-759-103-19**	**IC UPC319C**
IC1, 104	**8-759-132-40**	**IC UPC324C**
IC120, 502, 506, 507, 517	**8-759-145-57**	**IC UPC4557C**
IC102	**8-759-200-60**	**IC TA7060AP**
IC125, 126, 130, 131	**8-759-300-25**	**IC HD10125**
IC522	**8-759-001-16**	**IC MC10116L**
IC103	**8-759-900-00**	**IC SN74LS00N, TTL**
IC128	**8-759-900-02**	**IC SN74LS02N, TTL**
IC133, 516, 526	**8-759-900-04**	**IC SN74LS04N, TTL**

(PR-40 BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
IC109	**8-759-900-11**	**IC SN74LS11N, TTL**
IC113	**8-759-900-58**	**IC HA1-4905**
IC112, 134	**8-759-900-59**	**IC HI1-0201**
IC129	**8-759-900-74**	**IC SN74LS74AN, TTL**
IC518	**8-759-900-86**	**IC SN74LS86N, TTL**
IC106, 110	**8-759-901-23**	**IC SN74LS123N, TTL**
IC520, 524	**8-759-901-63**	**IC SN74LS163AN, TTL**
IC107	**8-759-901-91**	**IC SN74LS191N, TTL**
IC127, 528	**8-759-902-21**	**IC SN74LS221N, TTL**
IC525	**8-759-902-40**	**IC SN74LS240N, TTL**
IC515, 521	**8-759-902-73**	**IC SN74LS273N, TTL**
IC527	**8-759-903-74**	**IC SN74LS374N, TTL**
IC123, 509, 514	**8-759-906-01**	**IC TL601CP**
IC519, 523	**8-759-906-70**	**IC SN74LS670N, TTL**
IC132	**8-759-910-04**	**IC SN74S04N, TTL**
IC505	**8-759-931-02**	**IC CA3102E**
IC105	**8-759-974-06**	**IC SN7406N, TTL**
IC111, 114, 117, 119, 122, 508, 510, 513	**8-759-990-82**	**IC TL082CP**
Q119, 120, 501, 507, 517	**8-761-622-00**	**TRANSISTOR 2SC1636**
Q506	**8-765-300-00**	**TRANSISTOR 2SC2009**
Q113, 114, 128, 129, 138, 139, 512	**8-769-193-09**	**TRANSISTOR 2SK43-3**

CK-11 BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6259-216-A	COMPLETE PCB, CK-11

(This assembly includes the following parts.)

Ref. No. or Q'ty	Part No.	Description
C23, 82, 131, 132	1-102-110-00	CAP, CERAMIC 220PF 10% 50V
C14, 15, 31	1-102-114-00	CAP, CERAMIC 470PF 10% 50V
C55	1-102-859-00	CAP, CERAMIC 75PF 5% 50V
C49, 50	1-107-077-00	CAP, MICA 47PF 5% 50V
C38, 65	1-107-082-00	CAP, MICA 75PF 5% 50V
C32	1-107-083-00	CAP, MICA 82PF 5% 50V
C4, 5	1-107-085-00	CAP, MICA 100PF 5% 50V
C1, 2, 46	1-107-210-00	CAP, MICA 22PF 5% 500V
C33, 34	1-109-539-00	CAP, MICA 150PF 5% 100V
C43	1-109-542-00	CAP, MICA 220PF 5% 100V
C3	1-109-553-00	CAP, MICA 470PF 5% 100V
C69, 72	1-109-561-00	CAP, MICA 0.001 5% 100V
C85, 87, 89, 91	1-123-344-00	CAP, ELECT 47 35V
C30, 76, 77, 80	1-130-471-00	CAP, MYLAR 0.001 5% 50V
C75	1-130-473-00	CAP, MYLAR 0.0015 5% 50V
C81	1-130-483-00	CAP, MYLAR 0.01 5% 50V
C74	1-130-487-00	CAP, MYLAR 0.022 5% 50V
C79, 83	1-130-489-00	CAP, MYLAR 0.033 5% 50V
C44	1-130-493-00	CAP, MYLAR 0.068 5% 50V
C73	1-130-495-00	CAP, MYLAR 0.1 5% 50V
C7	1-130-852-00	CAP, FILM 0.0015 5% 100V
C6	1-130-853-00	CAP, FILM 0.0047 5% 100V
C47, 48	1-131-343-00	CAP, TANT 0.22 10% 35V
C78	1-131-344-00	CAP, TANT 0.33 10% 35V
C9, 28, 29	1-131-345-00	CAP, TANT 0.47 10% 35V
C8	1-131-355-00	CAP, TANT 2.2 10% 25V
C63, 64	1-131-357-00	CAP, TANT 4.7 10% 25V
C19, 20, 36, 37, 66, 68, 71	1-131-373-00	CAP, TANT 22 10% 16V
C35, 45, 51, 53, 54, 56, 59	1-161-039-00	CAP, CERAMIC 0.001 10% 50V
C10, 11, 12, 13, 16, 17, 18, 21, 22, 24, 25, 26, 27, 39, 40, 41, 42, 52, 57, 58, 60, 61, 62, 67, 70, 84, 86, 88, 90, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114	1-161-055-00	CAP, CERAMIC 0.022 10% 50V

(CK-11 BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
R71, 84	1-214-101-00	RES, METAL 51 1% 1/4W
R19	1-214-104-00	RES, METAL 68 1% 1/4W
R14, 66	1-214-108-00	RES, METAL 100 1% 1/4W
R18, 85	1-214-110-00	RES, METAL 120 1% 1/4W
R23	1-214-112-00	RES, METAL 150 1% 1/4W
R30	1-214-114-00	RES, METAL 180 1% 1/4W
R33, 76, 79	1-214-115-00	RES, METAL 200 1% 1/4W
R43	1-214-116-00	RES, METAL 220 1% 1/4W
R22	1-214-118-00	RES, METAL 270 1% 1/4W
R99	1-214-120-00	RES, METAL 330 1% 1/4W
R9	1-214-122-00	RES, METAL 390 1% 1/4W
R50	1-214-123-00	RES, METAL 430 1% 1/4W
R69, 87	1-214-125-00	RES, METAL 510 1% 1/4W
R78	1-214-127-00	RES, METAL 620 1% 1/4W
R49, 95	1-214-128-00	RES, METAL 680 1% 1/4W
R102	1-214-131-00	RES, METAL 910 1% 1/4W
R5, 8, 15, 32, 35, 39, 72, 81, 83, 88, 89, 100	1-214-132-00	RES, METAL 1K 1% 1/4W
R27	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R41, 47, 51, 68, 86, 93	1-214-140-00	RES, METAL 2.2K 1% 1/4W
R7, 63	1-214-142-00	RES, METAL 2.7K 1% 1/4W
R40, 56, 57, 58, 64, 65, 67, 98, 114, 116	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R48, 74, 75, 80	1-214-148-00	RES, METAL 4.7K 1% 1/4W
R11, 37, 42, 55, 94, 101	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R1, 2, 73, 82, 96, 97	1-214-150-00	RES, METAL 5.6K 1% 1/4W
R13	1-214-152-00	RES, METAL 6.8K 1% 1/4W
R4	1-214-153-00	RES, METAL 7.5K 1% 1/4W
R3	1-214-154-00	RES, METAL 8.2K 1% 1/4W
R10, 16, 17, 20, 21, 24, 25, 26, 28, 29, 34, 38, 44, 45, 60, 70, 77, 90, 91	1-214-156-00	RES, METAL 10K 1% 1/4W
R109	1-214-158-00	RES, METAL 12K 1% 1/4W
R103	1-214-159-00	RES, METAL 13K 1% 1/4W
R12, 31, 36, 108	1-214-162-00	RES, METAL 18K 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(CK-11 BOARD, BVT-800PS)		
R6	**1-214-164-00**	**RES, METAL 22K 1% 1/4W**
R112	**1-214-165-00**	**RES, METAL 24K 1% 1/4W**
R46, 61, 62, 105	**1-214-168-00**	**RES, METAL 33K 1% 1/4W**
R113	**1-214-169-00**	**RES, METAL 36K 1% 1/4W**
R92	**1-214-170-00**	**RES, METAL 39K 1% 1/4W**
R52	**1-214-171-00**	**RES, METAL 43K 1% 1/4W**
R53, 106, 107	**1-214-172-00**	**RES, METAL 47K 1% 1/4W**
R115	**1-214-174-00**	**RES, METAL 56K 1% 1/4W**
R104	**1-214-175-00**	**RES, METAL 62K 1% 1/4W**
R54, 59, 110, 111	**1-214-180-00**	**RES, METAL 100K 1% 1/4W**
RV1	**1-228-292-00**	**RES, VAR, METAL 2K**
RV2, 3, 4, 5	**1-228-294-00**	**RES, VAR, METAL 10K**
LV1	**1-407-564-00**	**COIL, VAR, 1.5**
LV2	**1-407-565-00**	**COIL, VAR, 2.2**
L1, 2	**1-408-401-00**	**INDUCTOR, MICRO 2.2 5%**
L3, 5, 6	**1-421-329-00**	**COIL, CHOKE**
L4	**1-421-459-00**	**COIL, CHOKE**
FB1, 2, 3, 4, 5	**1-535-178-00**	**FERRITE BEAD**
S2	**1-552-509-00**	**SWITCH, DIP, 1-CKT**
S1	**1-554-168-00**	**SWITCH, SLIDE**
X1	**1-567-070-00**	**VCO, CRYSTAL; 10.8750MHz**
TP1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 E1, 2, 3, 4, 5, 6, 7, 8	3-657-235-00	TERMINAL, TP
2 PCS	3-673-249-00	LEVER, PC BOARD
6 PCS	**7-621-912-20**	**SCREW, B 2.6X5**
12 PCS	**7-621-981-15**	**SCREW, PSW 2.6X6**
2 PCS	**7-626-320-11**	**PIN, SPRING 3X8**
D4, 5	**8-712-540-06**	**DIODE 1T25-41**
D11	**8-719-101-98**	**DIODE 1SS97**
D8	**8-719-191-07**	**DIODE RD9.1E**
D1, 2, 3, 6, 7, 9, 10	**8-719-815-55**	**DIODE 1S1555**
D12	**8-719-911-19**	**DIODE 1SS119**
D13	**8-719-911-19**	**DIODE 1SS119**

Ref. No. or Q'ty	Part No.	Description
(CK-11 BOARD, BVT-800PS)		
Q1, 6, 8	**8-729-612-77**	**TRANSISTOR 2SA1027R**
Q2, 3, 4, 5, 7, 9, 10, 11	**8-729-672-43**	**TRANSISTOR 2SC2724**
IC1B, 9T	**8-749-938-10**	**IC BX381**
IC9P, 10K	**8-759-103-19**	**IC UPC319C**
IC3A, 3F	**8-759-240-20**	**IC TC4020BP, CMOS**
IC9G	**8-759-300-25**	**IC HD10125**
IC9S	**8-759-745-60**	**IC NJM4560D**
IC4G	**8-759-756-85**	**IC, PROM, TBP28S42N-YADR**
IC6H	**8-759-756-86**	**IC, PROM, TBP28S42N-CADR**
IC2H	**8-759-757-91**	**IC, PROM, MB7051-YCDL**
IC2N, 4E, 5K, 5M, 8H, 9K, 10A	**8-759-900-00**	**IC SN74LS00N, TTL**
IC1H, 2M, 2Q, 3K, 5E, 8D, 9L	**8-759-900-04**	**IC SN74LS04N, TTL**
IC6D, 8S	**8-759-900-08**	**IC SN74LS08N, TTL**
IC 2D, 8E, 9V	**8-759-900-10**	**IC SN74LS10N, TTL**
IC10M	**8-759-900-11**	**IC SN74LS11N, TTL**
IC6E	**8-759-900-14**	**IC SN74LS14N, TTL**
IC8B	**8-759-900-20**	**IC SN74LS20N, TTL**
IC8T	**8-759-900-32**	**IC SN74LS32N, TTL**
IC1D	**8-759-900-51**	**IC SN74LS51N, TTL**
IC10P	**8-759-900-58**	**IC HA1-4905-5**
IC7G, 10S	**8-759-900-59**	**IC HI1-0201**
IC2F, 2P, 3B, 3G, 4D, 4F, 5L, 6B, 7K, 9M, 10X, 10Y, 10Z	**8-759-900-74**	**IC SN74LS74AN, TTL**
IC3H	**8-759-900-86**	**IC SN74LS86N, TTL**
IC8A, 9A	**8-759-901-13**	**IC SN74LS113N, TTL**
IC6K 8K	**8-759-901-14**	**IC SN74LS114AN, TTL**
IC1N	**8-759-901-23**	**IC SN74LS123N, TTL**
IC1V, 1W, 2V, 2W, 3L, 3N, 3P, 3Q, 3S, 3T, 3V, 3W, 4V, 4W, 5V, 5W, 6V, 6W	**8-759-901-28**	**IC MSM5128-12RS, NMOS**
IC3E, 5B	**8-759-901-51**	**IC SN74LS151N, TTL**
IC1P	**8-759-901-57**	**IC SN74LS157N, TTL**
IC6M, 6N, 6P, 7M, 7N, 7P	**8-759-901-58**	**IC SN74LS158N, TTL**
IC5C, 7L, 8L, 8M, 8N, 8P, 8Q	**8-759-901-61**	**IC SN74LS161AN, TTL**

Ref. No. or Q'ty	Part No.	Description
(CK-11 BOARD, BVT-800PS)		
IC1E, 1G, 1K, 2G, 4A, 6L, 7Q, 7R, 8R	8-759-901-63	IC SN74LS163AN, TTL
IC1M, 1Y, 2Y, 3D, 3Y, 4Y, 5Y, 6Y, 7Y, 8C, 8Y, 9W	8-759-901-64	IC SN74LS164N, TTL
IC1U, 2U, 3U, 4U, 5U, 6U, 7U, 8U	8-759-901-66	IC SN74LS166AN, TTL
IC4H	8-759-901-74	IC SN74LS174N, TTL
IC1L, 2E, 2L, 3C, 4C, 7H, 9Z	8-759-901-75	IC SN74LS175N, TTL
IC1F, 4B, 5A, 6C, 7D, 9R	8-759-902-21	IC SN74LS221N, TTL
IC6A	8-759-902-74	IC SN74LS423N, TTL
IC2K	8-759-903-67	IC SN74LS367AN, TTL
IC1X, 2R, 2S, 2T, 2X, 3X, 4X, 5R, 5S, 5Q, 5X, 6X, 7S, 7T	8-759-903-74	IC SN74LS374N, TTL
IC1R, 1S, 1T, 5T	8-759-903-77	IC SN74LS377N, TTL
IC5D, 9X, 9Y	8-759-903-93	IC SN74LS393N, TTL
IC5G	8-759-903-97	IC SN74LS684N, TTL
IC6Q, 6R, 6S, 6T	8-759-904-96	IC MBM2149L55
IC9U	8-759-906-01	IC TL601CP
IC5N, 5P	8-759-906-29	IC MB8147E
IC5F, 5H, 6F, 6G	8-759-906-69	IC SN74LS669N, TTL
IC7E	8-759-910-51	IC SN74S51N, TTL
IC7A, 7B, 7C	8-759-941-63	IC SN74163N, TTL
IC1C	8-759-942-65	IC SN74265N, TTL
IC10D	8-759-957-09	IC FT5709M
IC9J	8-759-974-06	IC SN7406N, TTL
IC8G, 9E, 10U	8-759-990-82	IC TL082CP
IC10R, 10H	8-759-990-84	IC TL084CN

MB-35 BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6265-050-A	COMPLETE PCB, MB-35
(This assembly includes the following parts.)		
C1, 2, 3, 4	**1-123-334-00**	**CAP, ELECT 220 25V**
R1, 2	**1-213-131-00**	**RES, METAL 100 5% 1W**
CN5M	1-508-708-00	RECEP, 4P, MALE
CN4M	1-508-709-00	RECEP, 5P, MALE
CN1, 2, 3	**1-508-892-00**	**CONNECTOR, PCB, 100P**
CN8M, 35M, 38M, 39M	1-508-900-00	RECEP, 2P, MALE
CN10M	1-508-903-00	RECEP, 5P, MALE
CN9M	1-508-906-00	RECEP, 10P, MALE
CN11M	1-508-935-00	RECEP, 5P, MALE
CN12M	1-508-936-00	RECEP, 6P, MALE
CN6M	1-508-997-00	RECEP, 12P, MALE
CN7M	1-560-190-00	RECEP, 20P, MALE
2 PCS	**7-621-259-52**	**SCREW, +P 2.6X8**
2 PCS	**7-622-207-05**	**NUT, 2.6**
2 PCS	**7-623-207-22**	**WASHER, SPRING, 2.6**
2 PCS	**7-688-002-11**	**WASHER, 2.6**

CN-46A BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	1-605-785-00	PC BOARD, CN-46, WITHOUT COMPONENT
CN17M	1-508-903-00	RECEP, 5P, MALE
CN18M	1-508-906-00	RECEP, 10P, MALE
CN14M	1-508-933-00	RECEP, 2P, MALE
CN15M	1-508-936-00	RECEP, 6P, MALE

IV-4A BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6257-112-A	COMPLETE PCB, IV-4A
(This assembly includes the following parts.)		
C31	1-107-085-00	CAP, MICA 100PF 5% 50V
C12, 40, 42	1-107-210-00	CAP, MICA 22PF 5% 500V
C34, 39	1-108-555-00	CAP, MYLAR 0.001 5% 50V
C22	1-108-567-00	CAP, MYLAR 0.0033 5% 50V
C35	1-109-542-00	CAP, MICA 220PF 5% 100V
C20	1-109-545-00	CAP, MICA 270PF 5% 100V
C19	1-109-748-00	CAP, MICA 21PF +/–0.5PF 100V
C1, 3, 5, 7, 11, 13, 16, 18, 26, 28, 33	1-123-342-00	CAP, ELECT 22 35V
C41	1-131-347-00	CAP, TANT 1 10% 35V
C38	1-131-359-00	CAP, TANT 10 10% 25V
C44	1-161-039-00	CAP, CERAMIC 0.001 10% 50V
C2, 4, 6, 8, 10, 14, 15, 17, 21, 23, 24, 25, 27, 29, 30, 32, 36, 37, 43, 45	1-161-055-00	CAP, CERAMIC 0.022 10% 50V
C9	1-161-898-31	CAP, CERAMIC 0.47 50V
R32	1-214-093-00	RES, METAL 24 1% 1/4W
R10, 37, 62, 65, 66, 68, 73, 74	1-214-100-00	RES, METAL 47 1% 1/4W
R3	1-214-101-00	RES, METAL 51 1% 1/4W
R1, 19, 57, 58, 59, 60, 61, 67	1-214-105-00	RES, METAL 75 1% 1/4W
R7, 13, 17, 33, 35, 36, 88	1-214-108-00	RES, METAL 100 1% 1/4W
R44, 45	1-214-112-00	RES, METAL 150 1% 1/4W
R27, 38, 39, 46, 47	1-214-115-00	RES, METAL 200 1% 1/4W
R16, 18, 41, 53	1-214-116-00	RES, METAL 220 1% 1/4W
R15	1-214-117-00	RES, METAL 240 1% 1/4W
R12, 14, 42	1-214-119-00	RES, METAL 300 1% 1/4W
R54, 55, 56	1-214-121-00	RES, METAL 360 1% 1/4W
R63, 99	1-214-124-00	RES, METAL 470 1% 1/4W
R84	1-214-125-00	RES, METAL 510 1% 1/4W
R8, 9	1-214-128-00	RES, METAL 680 1% 1/4W
R96	1-214-129-00	RES, METAL 750 1% 1/4W
R40	1-214-131-00	RES, METAL 910 1% 1/4W

(IV-4A BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
R11, 50, 78, 87, 90, 97	1-214-132-00	RES, METAL 1K 1% 1/4W
R43, 52	1-214-134-00	RES, METAL 1.2K 1% 1/4W
R64	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R48	1-214-137-00	RES, METAL 1.6K 1% 1/4W
R77, 103	1-214-138-00	RES, METAL 1.8K 1% 1/4W
R31, 89	1-214-139-00	RES, METAL 2.0K 1% 1/4W
R26, 72, 76	1-214-142-00	RES, METAL 2.7K 1% 1/4W
R70	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R71	1-214-146-00	RES, METAL 3.9K 1% 1/4W
R2, 4, 20, 22, 28, 34, 69, 79, 83, 85, 86, 95, 102	1-214-148-00	RES, METAL 4.7K 1% 1/4W
R30	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R82	1-214-153-00	RES, METAL 7.5K 1% 1/4W
R5, 29, 51	1-214-155-00	RES, METAL 9.1K 1% 1/4W
R75, 80	1-214-156-00	RES, METAL 10K 1% 1/4W
R100, 104	1-214-158-00	RES, METAL 12K 1% 1/4W
R25, 81	1-214-160-00	RES, METAL 15K 1% 1/4W
R98	1-214-172-00	RES, METAL 47K 1% 1/4W
R94	1-214-173-00	RES, METAL 51K 1% 1/4W
R21, 23, 24, 92, 93	1-214-180-00	RES, METAL 100K 1% 1/4W
RV2	1-224-978-00	RES, VAR, METAL 50
RV1	1-228-288-00	RES, VAR, METAL 100
RV4, 5	1-228-290-00	RES, VAR, METAL 500
RV3	1-228-291-00	RES, VAR, METAL 1K
RV6	1-228-296-00	RES, VAR, METAL 50K
R6	1-247-049-00	RES, CARBON 470K 5% 1/6W
R91	1-247-887-31	RES, CARBON 220K 5% 1/6W
L2	1-407-161-00	INDUCTOR, MICRO 22 5%
L1	1-407-187-00	INDUCTOR, MICRO 5.6 5%
L501	1-408-874-00	INDUCTOR 81
CN36M	1-508-900-00	RECEP, 2P, MALE
CN19M, 22M	1-508-936-00	RECEP, 6P, MALE
CN21M	1-508-951-00	RECEP, 10P, MALE
CN20M	1-508-997-00	RECEP, 12P, MALE
FB1, 2, 3, 4, 5, 6, 7, 8, 9	1-535-178-00	FERRITE BEAD
TP1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 E1, 2, 3, 4	3-657-235-00	TERMINAL, TP

Ref. No. or Q'ty	Part No.	Description
(IV-4A BOARD, BVT-800PS)		
2 PCS	4-835-627-00	FASTENER
1 PC	7-686-527-01	SCREW, PSW 3X6
D16, 17	8-719-104-10	DIODE 1SS99
D6, 11	8-719-115-07	DIODE RD15E
D5, 10	8-719-151-07	DIODE RD5.1E-B
D20	8-719-191-07	DIODE RD9.1E
D12, 13, 18, 19, 21	8-719-815-55	DIODE 1S1555
D1, 2, 3, 4, 7, 8, 9, 22	8-719-815-80	DIODE 1S1587
Q4, 5	8-729-023-69	TRANSISTOR 2N2369A
Q13, 19	8-729-117-54	TRANSISTOR 2SA1175
Q11, 12	8-729-211-99	TRANSISTOR 2SC1199
Q2, 9	8-729-658-32	TRANSISTOR 2SC1583
Q14, 15, 16, 17, 18	8-729-672-43	TRANSISTOR 2SC2724
Q3, 8	8-729-699-51	TRANSISTOR 2SA995
IC3	8-759-000-05	IC MC1496G; MOTOROLA
IC1	8-759-132-40	IC UPC324C
IC7	8-759-145-57	IC UPC4557C
IC5	8-759-901-23	IC SN74LS123N, TTL
IC4	8-759-907-10	IC TL710CP
IC2	8-759-974-38	IC SN7438N, TTL
Q1	8-761-510-10	TRANSISTOR 2SK58-1X
Q6, 7	8-761-622-00	TRANSISTOR 2SC1636
Q10	8-765-300-00	TRANSISTOR 2SC2009

DP-24A BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6265-049-A	COMPLETE PCB, DP-24A
(This assembly includes the following parts.)		
R5, 6	1-214-113-00	RES, METAL 160 1% 1/4W
R1, 2, 3, 4	1-214-120-00	RES, METAL 330 1% 1/4W
CN13M	1-508-949-00	RECEP, 12P, MALE
D8, 9	8-719-901-34	LED, LD003, RED/GREEN/RED
D1, 2, 3, 4, 5, 7	8-719-901-48	LED, LT-9010N, GREEN
D6	8-719-901-49	LED, LT-9010H, YELLOW
IC2	8-759-974-06	IC SN7406N, TTL
IC1	8-759-974-07	IC SN7407N, TTL
IC3	8-759-974-38	IC SN7438N, TTL

PW-91A BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6263-042-A	COMPLETE PCB, PW-91A
(This assembly includes the following parts.)		
Q2, 3	X-3673-224-1	TRANSISTOR 2SC2625, 2 PCS This part is the kit of two transistors. Replace Q2 & Q3 at the same time.
C71, 91, 111, 131	1-107-082-00	CAP, MICA 75PF 5% 50V
C17	1-108-567-00	CAP, MYLAR 0.0033 5% 50V
C51, 52, 53, 54	1-108-579-00	CAP, MYLAR 0.01 5% 50V
C72, 132	1-123-307-00	CAP, ELECT 100 10V
C55, 58, 59, 60, 61, 62, 63	1-123-824-00	CAP, ELECT 220 25V

Ref. No. or Q'ty	Part No.	Description
(PW-91A BOARD, BVT-800PS)		
C9	1-123-981-00	CAP, ELECT 4.7 450V
C18	1-123-982-00	CAP, ELECT 3.3 63V
C56, 57	1-123-983-00	CAP, ELECT 470 16V
C10, 11	1-123-984-00	CAP, ELECT 4.7 250V
C7, 8	1-125-282-00	CAP, ELECT 470 200V
⚠ C3, 4, 5, 6	1-130-854-00	CAP, FILM 0.0022 250V
C14, 16	1-131-356-00	CAP, TANT 3.3 10% 25V
⚠ C2	1-136-210-00	CAP, FILM 0.01 250V
⚠ C1	1-136-212-00	CAP, FILM 0.1 250V
C12	1-161-740-00	CAP, CERAMIC 470PF 10% 400V
⚠ R1	1-205-739-00	RES, WIREWOUND 8.2 10% 5W
R11, 13	1-212-497-00	RES, METAL 33 1% 1/2W
R21, 22	1-212-498-00	RES, METAL 36 1% 1/2W
R15, 16, 17, 18	1-212-703-00	RES, METAL 110K 1% 1/2W
R77	1-214-084-00	RES, METAL 10 1% 1/4W
R14	1-214-100-00	RES, METAL 47 1% 1/4W
R82, 83, 98, 138	1-214-101-00	RES, METAL 51 1% 1/4W
R96, 117, 119, 135	1-214-108-00	RES, METAL 100 1% 1/4W
R6	1-214-109-00	RES, METAL 110 1% 1/4W
R116	1-214-113-00	RES, METAL 160 1% 1/4W
R75, 93, 113, 133	1-214-115-00	RES, METAL 200 1% 1/4W
R115	1-214-116-00	RES, METAL 220 1% 1/4W
R76	1-214-122-00	RES, METAL 390 1% 1/4W
R154	1-214-125-00	RES, METAL 510 1% 1/4W
R71, 123	1-214-132-00	RES, METAL 1K 1% 1/4W
R78	1-214-135-00	RES, METAL 1.3K 1% 1/4W
R94, 134	1-214-139-00	RES, METAL 2.0K 1% 1/4W
R95, 100, 101, 137, 140, 141	1-214-140-00	RES, METAL 2.2K 1% 1/4W

Ref. No. or Q'ty	Part No.	Description
(PW-91A BOARD, BVT-800PS)		
R86, 87, 104, 124, 145	1-214-141-00	RES, METAL 2.4K 1% 1/4W
R88, 155	1-214-143-00	RES, METAL 3.0K 1% 1/4W
R84, 99, 120, 143	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R106, 144	1-214-149-00	RES, METAL 5.1K 1% 1/4W
R103, 139	1-214-150-00	RES, METAL 5.6K 1% 1/4W
R121	1-214-152-00	RES, METAL 6.8K 1% 1/4W
R79	1-214-158-00	RES, METAL 12K 1% 1/4W
R89, 105, 118, 147, 151	1-214-161-00	RES, METAL 16K 1% 1/4W
R80	1-214-164-00	RES, METAL 22K 1% 1/4W
R7	1-215-242-00	RES, METAL 150 5% 3W
R55	1-217-300-00	RES, WIREWOUND 15 5W 10%
R9, 72, 73, 91, 111, 131	1-217-621-00	RES, METAL 0.1 10% 2W
⚠ R2	1-217-623-00	RES, FUSIBLE 3K 5% 2W
RV71, 91, 111, 131	1-228-290-00	RES, VAR, METAL 500
RV72, 92, 132, 151	1-228-292-00	RES, VAR, METAL 2K
R19, 20	1-244-928-00	RES, CARBON 200K 5% 1/2W
R8, 12	1-246-432-00	RES, CARBON 20 5% 1/4W
R74, 92, 112, 132	1-246-469-00	RES, CARBON 680 5% 1/4W
R97, 136	1-246-811-00	RES, CARBON 220K 5% 1/8W
R81, 102, 122, 142	1-247-046-00	RES, CARBON 270K 5% 1/8W
R51, 52, 53, 54	1-247-083-00	RES, CARBON 10 5% 1/4W
R5	1-247-765-00	RES, CARBON 33K 5% 1/2W
L3	1-408-654-00	INDUCTOR, MICRO 1mH 5%
L51	1-413-089-00	COIL, SN
L52, 53	1-413-090-00	COIL, SN
L54	1-413-091-00	COIL, SN

(PW-91A BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
⚠ L1, 2	1-421-329-00	COIL, CHOKE
L55, 57, 58, 59	1-421-329-00	COIL, CHOKE
⚠ T1	1-421-430-00	TRANSFORMER, LOW FREQ
L56	1-421-459-00	COIL, CHOKE
T2, 3	1-437-109-00	TRANSFORMER, DRIVE
⚠ T4	1-447-229-00	TRANSFORMER, CONVERTER
CN51M	1-508-900-00	RECEP, 2P, MALE
⚠ CN3M	1-508-904-00	RECEP, 6P, MALE
⚠ RY1	1-515-451-21	RELAY, 12V 500 OHMS
⚠ SW3	1-554-058-21	SWITCH, THERMAL REED 70°C
⚠ CN1M	1-560-176-00	RECEP, 2P, MALE
⚠ CN2M	1-560-723-00	RECEP, 3P, MALE
ZT1	1-806-356-00	VARISTOR ENB461-10A
CN5F	1-509-585-00	PLUG, HOUSING, 4P
	1-535-100-00	CONTACT, FEMALE
CN4F	1-509-705-00	PLUG, HOUSING, 5P
	1-535-100-00	CONTACT, FEMALE
2 PCS	1-535-324-00	PLUG, FASTEN, FEMALE
5 PCS	2-832-007-00	BUSHING, INSULATING
3 PCS	3-650-188-00	COLLAR, 6mm DIA.
TP1, 2, 3,		
7 PCS	7-621-981-25	SCREW, PSW 2.6X8
3 PCS	7-621-981-35	SCREW, PSW 2.6X10
7 PCS	7-686-529-01	SCREW, PSW 3X10

(PW-91A BOARD, BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	7-686-548-01	SCREW, PSW 4X8
D71, 134	8-719-102-52	DIODE 1SZ52
D7	8-719-115-07	DIODE RD15E
D72, 93, 112, 131	8-719-139-07	DIODE RD3.9E-B
D6, 16	8-719-200-02	DIODE 10E2
D5, 73, 74, 91, 92, 111, 113, 132, 133	8-719-815-55	DIODE 1S1555
D8, 9	8-719-901-17	DIODE V11L
D51	8-719-901-18	DIODE ESAD83
D1, 2, 3, 4	8-719-902-17	DIODE U15G
D52, 54	8-719-912-50	DIODE ESAC25-02N
D53	8-719-912-52	DIODE ESAC25-02C
D10, 11, 13, 14	8-719-923-48	DIODE 1S2348H
D17, 18	8-719-924-06	DIODE ERC24-06S
D12, 15	8-719-930-12	DIODE EQB01-12Z
Q112, 132	8-729-113-34	TRANSISTOR 2SB733
Q72, 92	8-729-177-32	TRANSISTOR 2SD773
Q1	8-729-204-88	TRANSISTOR 2SC3310
Q71, 91	8-729-900-07	TRANSISTOR 2SB757
Q111, 131	8-729-984-70	TRANSISTOR 2SD847
IC71, 111	8-759-132-40	IC UPC324C
Q73, 133	8-769-193-09	TRANSISTOR 2SK43-3

CT-29 BOARD (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	A-6263-037-A	COMPLETE PCB, CT-29

(This assembly includes the following parts.)

Ref. No. or Q'ty	Part No.	Description
C209, 211	1-108-559-00	CAP, MYLAR 0.0015 5% 50V
C204	1-108-570-00	CAP, MYLAR 0.0043 5% 50V
C 207, 208	1-108-571-00	CAP, MYLAR 0.0047 5% 50V
C206	1-108-595-00	CAP, MYLAR 0.047 5% 50V
C203	1-123-382-00	CAP, ELECT 3.3 20% 25V
C202	1-123-356-00	CAP, ELECT 10 20% 25V
C205	1-123-330-00	CAP, ELECT 22 20% 25V
C212	1-161-055-00	CAP, CERAMIC 0.022 10% 50V
C201	1-161-888-00	CAP, CERAMIC 0.01 50V
R212	1-247-083-00	RES, CARBON 10 1% 1/4W
R219	1-247-122-00	RES, CARBON 430 1% 1/4W
R200, 220, 222	1-247-131-00	RES, CARBON 1K 1% 1/4W
R201, 208, 211	1-247-141-00	RES, CARBON 2.7K 1% 1/4W
R207	1-247-147-00	RES, CARBON 4.7K 1% 1/4W
R221	1-247-152-00	RES, CARBON 7.5K 1% 1/4W
R206	1-247-154-00	RES, CARBON 9.1K 1% 1/4W
R205	1-247-157-00	RES, CARBON 12K 1% 1/4W
R213, 216	1-247-159-00	RES, CARBON 15K 1% 1/4W
R203, 204, 214, 215, 217, 218	1-247-164-00	RES, CARBON 24K 1% 1/4W
R202	1-247-165-00	RES, CARBON 27K 1% 1/4W
RV201	1-226-022-00	RES, VAR, METAL 2K
RV202	1-226-023-00	RES, VAR, METAL 5K
R209, 210	1-247-052-00	RES, CARBON 820K 5% 1/8W
CN201M	1-508-904-00	RECEP, 6P, MALE
D201	8-719-100-27	DIODE RD4.7E-B2
Q201	8-729-606-32	TRANSISTOR 2SC2603
IC202	8-759-145-57	IC UPC4557C
IC201	8-759-904-94	IC TL494CN

FRAME (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
R1	1-214-105-00	RES, METAL 75 1% 1/4W
R2	1-247-825-00	RES, CARBON 560 5% 1/6W
CN41M	1-508-945-00	RECEP, 7P, MALE
CN23M	1-509-470-00	RECEP, 18P, MALE
CN8F, 14F, 16F, 35F, 36F, 38F, 39F	1-509-983-00	PLUG, HOUSING, 2P
	1-509-982-00	CONTACT, FEMALE
CN10F, 11F, 17F	1-509-986-00	PLUG, HOUSING, 5P
	1-509-982-00	CONTACT, FEMALE
CN12F, 15F, 19F, 22F	1-509-987-00	PLUG, HOUSING, 6P
	1-509-982-00	CONTACT, FEMALE
CN9F, 18F, 21F	1-509-989-00	PLUG, HOUSING, 10P
	1-509-982-00	CONTACT, FEMALE
⚠ CN61, 62	1-563-112-11	CONNECTOR, DIVERGE
⚠ SW1	1-570-117-31	SWITCH, SEESAW
⚠ CB1	1-532-534-31	BREAKER, CIRCUIT, AC250V 1.6A
1 PC	1-535-324-00	TERMINAL, FASTEN
M1	1-541-170-31	MOTOR, FAN, DC
SW3, 4	1-552-822-00	SWITCH, SLIDE
⚠ SW2	1-554-011-00	SWITCH, VOLTAGE SELECT
⚠ 1 PC	1-556-559-31	CORD, POWER, 3P
CN40M	1-560-495-00	RECEP, D-SUB 15P, MALE
CN6F, 13F, 20F	1-561-056-00	PLUG, HOUSING, 12P
	1-509-982-00	CONTACT, FEMALE
⚠ CN1F	1-561-069-00	PLUG, HOUSING, 2P
	1-535-206-00	CONTACT, FEMALE
CN7F	1-561-485-00	PLUG, HOUSING, 20P
	1-560-037-00	CONTACT, FEMALE

FRAME, ACCESSORIES, PAKING, FIXTURE

Ref. No. or Q'ty	Part No.	Description
(FRAME, BVT-800PS)		
CN25F, 26F, 27F, 28F, 29F, 30F, 32F, 33F, 34F	**1-561-781-21**	**RECEP, BNC, FEMALE**
⚠ CN2F	1-561-828-00	PLUG, HOUSING, 3P
	1-535-206-00	CONTACT, FEMALE

ACCESSORIES SUPPLIED (BVT-800PS)

1 PC	**A-6252-050-A**	**EB-9A ASSY**
R2, 6	**1-246-457-00**	**RES, CARBON 220 5% 1/4W**
R1, 5	**1-246-469-00**	**RES, CARBON 680 5% 1/4W**
1 PC	**1-508-892-00**	**CONNECTOR, PCB, 100P**
2 PCS	3-657-235-00	TERMINAL, TP
10 PCS	**7-621-981-15**	**SCREW, PSW 2.6X6**
4 PCS	**7-621-981-25**	**SCREW, PSW 2.6X8**
8 PCS	**7-686-527-01**	**SCREW, PSW 3X6**
D1, 2, 3, 5	**8-719-812-41**	**LED, TLR124, RED**
2 PCS	X-3673-210-2	ANGLE ASSY, RACK
1 PC	**1-556-155-00**	**CABLE ASSY, 18P, 3m**
	1-508-495-00	**PLUG, 18P, MALE**
	1-508-496-00	**PLUG, 18P, FEMALE**
1 PC	3-654-748-00	SPACER
4 PCS	**7-682-262-14**	**SCREW, +K 4X10**
4 PCS	**7-686-637-09**	**SCREW, B 4X12**

PACKING MATERIAL (BVT-800PS)

Ref. No. or Q'ty	Part No.	Description
1 PC	**3-701-616-00**	**BAG, POLYETHYLENE (FOR SCREWS)**
2 PCS	**3-701-619-00**	**BAG, POLYETHYLENE (FOR RACK ANGLE ASSY)**
2 PCS	**3-701-630-00**	**BAG, POLYETHYLENE (FOR MANUAL AND CABLE)**
1 PC	**3-701-634-00**	**BAG, POLYETHYLENE (FOR EB-9A BOARD)**
1 PC	**4-854-939-00**	**BAG, POLYETHYLENE (FOR BVT-800PS)**

OPTIONAL FIXTURE (BVT-800PS)

7-700-733-01	**ALIGNMENT SCREWDRIVER, SLOTTED HEAD**
7-700-736-06	**HEXAGONAL WRENCH, L-SHAPED, 0.89mm**
7-721-050-63	**SCREWDRIVER, TOTSU, 3mm DIA.**
7-721-050-64	**SCREWDRIVER, TOTSU, 4mm DIA.**
J-6041-770-A	**IC TEST CLIP, TC-16**
J-6041-780-A	**IC TEST CLIP, TC-20**

Manufacturer;
AP Products Incorporated
BOX 697 72 Corwin Drive
Painesville, Ohio 44077, USA
TEL: 216-354-2101

SECTION E
CHANGED PARTS

UP TO #10199 (BVT-800PS, FOR PAL) | **#10201 & UP** (BVT-800PS, FOR PAL)

SG-67 BOARD

R569	1-214-180-00	RES, METAL 100K 1% 1/4W	1-214-175-00	RES, METAL 62K 1% 1/4W

UP TO #10199 (BVT-800PS, FOR PAL) | **#10201 & UP** (BVT-800PS, FOR PAL)
#70001 & UP (BVT-800PS, FOR SECAM)

PR-40 BOARD

C513	1-161-055-00	CAP, CERAMIC 0.022 10% 50V	DELETED	
R604	1-214-109-00	RES, METAL 100 1% 1/4W	1-214-105-00	RES, METAL 75 1% 1/4W
R539	1-214-113-00	RES, METAL 160 1% 1/4W	1-214-118-00	RES, METAL 270 1% 1/4W
R673	1-214-121-00	RES, METAL 360 1% 1/4W	DELETED	
R623	NOT IN USE		1-214-121-00	RES, METAL 360 1% 1/4W
R121	1-214-139-00	RES, METAL 2.0K 1% 1/4W	1-214-136-00	RES, METAL 1.5K 1% 1/4W
R674	1-214-163-00	RES, METAL 20K 1% 1/4W	DELETED	
R624	NOT IN USE		1-214-165-00	RES, METAL 24K 1% 1/4W
R289	1-214-165-00	RES, METAL 24K 1% 1/4W	DELETED	
RV110	NOT IN USE		1-228-291-00	RES, VAR, METAL 1K
TP507	NOT IN USE		3-657-235-00	TERMINAL, TP

UP TO #10299 (BVT-800PS, FOR PAL) | **#10301 & UP** (BVT-800PS, FOR PAL)

SG-67 BOARD

R569	1-214-175-00	RES, METAL 62K 1% 1/4W	DELETED	
RV505	1-228-294-00	RES, VAR, METAL 10K	DELETED	

UP TO #10399 (BVT-800PS, FOR PAL) | **#10401 & UP** (BVT-800PS, FOR PAL)
UP TO #70099 (BVT-800PS, FOR SECAM) | **#70101 & UP** (BVT-800PS, FOR SECAM)

PR-40 BOARD

R620	1-214-140-00	RES, METAL 2.2K 1% 1/4W	DELETED	
R661	1-214-146-00	RES, METAL 3.9K 1% 1/4W	1-214-144-00	RES, METAL 3.3K 1% 1/4W
R584	1-214-147-00	RES, METAL 4.3K 1% 1/4W	DELETED	
R621	1-214-160-00	RES, METAL 15K 1% 1/4W	DELETED	
R622	1-214-164-00	RES, METAL 22K 1% 1/4W	DELETED	
R635	1-214-166-00	RES, METAL 27K 1% 1/4W	1-214-165-00	RES, METAL 24K 1% 1/4W
RV507	1-228-295-00	RES, VAR, METAL 20K	DELETED	
Q514	8-761-622-00	TRANSISTOR 2SC1636	DELETED	

CHANGED PARTS

	UP TO #10499 (BVT-800PS, FOR PAL)		**#10501 & UP** (BVT-800PS, FOR PAL)	
SG-67 BOARD				
R232	1-214-156-00	RES, METAL 10K 1% 1/4W	1-214-155-00	RES, METAL 9.1K 1% 1/4W
RV210	NOT IN USE		1-228-292-00	RES, VAR, METAL 20K
TP211	NOT IN USE		3-657-235-00	TERMINAL, TP

	UP TO #10499 (BVT-800PS, FOR PAL)		**#10501 & UP** (BVT-800PS, FOR PAL) **#70001 & UP** (BVT-800PS, FOR SECAM)	
CK-11 BOARD				
IC1P	NOT IN USE		8-759-901-57	IC SN74LS157N, TTL

	UP TO #10499 (BVT-800PS, FOR PAL) **UP TO #70199** (BVT-800PS, FOR SECAM)		**#10501 & UP** (BVT-800PS, FOR PAL) **#70201 & UP** (BVT-800PS, FOR SECAM)	
PR-40 BOARD				
R539	1-214-118-00	RES, METAL 270 1% 1/4W	1-214-119-00	RES, METAL 300 1% 1/4W
CK-11 BOARD				
R50	1-214-120-00	RES, METAL 330 1% 1/4W	1-214-123-00	RES, METAL 430 1% 1/4W
CT-29 BOARD				
R222	1-246-473-00	RES, CARBON 1K 1% 1/4W	1-214-132-00	RES, METAL 1K 1% 1/4W

	UP TO #10599 (BVT-800PS, FOR PAL) **UP TO #70199** (BVT-800PS, FOR SECAM)		**#10601 & UP** (BVT-800PS, FOR PAL) **#70201 & UP** (BVT-800PS, FOR SECAM)	
PR-40 BOARD				
C110, 125	1-123-343-00	CAP, ELECT 33 35V	1-131-374-00	CAP, TANT 33 10% 16V

UP TO #10799 (BVT-800PS, FOR PAL) **UP TO #70199** (BVT-800PS, FOR SECAM)			**#10801 & UP** (BVT-800PS, FOR PAL) **#70201 & UP** (BVT-800PS, FOR SECAM)	
PW-91A BOARD				
R8, 12	1-244-632-00	RES, CARBON 20 5% 1/4W	1-246-432-00	RES, CARBON 20 5% 1/4W
R74, 92, 112, 132	1-244-669-00	RES, CARBON 680 5% 1/4W	1-246-469-00	RES, CARBON 680 5% 1/4W

UP TO #10899 (BVT-800PS, FOR PAL)			**#10901 & UP** (BVT-800PS, FOR PAL)	
SG-67 BOARD				
R40	1-214-168-00	RES, METAL 33K 1% 1/4W	1-214-163-00	RES, METAL 2K 1% 1/4W

UP TO #10899 (BVT-800PS, FOR PAL) **UP TO #70199** (BVT-800PS, FOR SECAM)			**#10901 & UP** (BVT-800PS, FOR PAL) **#70201 & UP** (BVT-800PS, FOR SECAM)	
POWER SUPPLY ASSY				
3-2	3-648-057-00	NUT, U	3-680-316-00	NUT, NYLON, 4
REAR PANEL ASSY				
3-1	3-648-057-00	NUT, U	3-680-316-00	NUT, NYLON, 4

UP TO #11100 (BVT-800PS, FOR PAL) **UP TO #70199** (BVT-800PS, FOR SECAM)			**#11101 & UP** (BVT-800PS, FOR PAL) **#70201 & UP** (BVT-800PS, FOR SECAM)	
PW-91 BOARD				
C2	1-130-455-00	CAP, FILM 0.01 20% 250V	1-136-210-00	CAP, FILM 0.01 20% 250V
C1	1-130-917-00	CAP, FILM 0.1 20% 250V	1-136-212-00	CAP, FILM 0.1 20% 250V
R55	1-212-507-00	RES, METAL 82 1/2W 1%	1-217-300-00	RES, WIREWOUND 15 5W 10%
R56, 57, 58, 59	1-212-507-00	RES, METAL 82 1/2W 1%	DELETED	
R51, 52, 53, 54	1-214-084-00	RES, METAL 10 1/4W 1%	1-247-083-00	RES, CARBON 10 1/4W 5%
R1	1-217-297-00	RES, WIREWOUND 8.2 5W 10%	1-205-739-00	RES, WIREWOUND 8.2 5W 10%
RY1	1-515-451-00	RELAY, 12V 500 OHMS	1-515-451-21	RELAY, 12V 500 OHMS
SW3	1-554-058-00	SWITCH, THERMAL REED 70°C	1-554-058-21	SWITCH, THERMAL REED 70°C
ZT2	1-806-355-00	VARISTOR ENB221-10A	DELETED	
FRAME				
	1-556-559-00	CORD, POWER	1-556-559-31	CORD, POWER

CHANGED PARTS

SG-67 BOARD

	UP TO #11599 (BVT-800PS, FOR PAL)		**#11601 & UP** (BVT-800PS, FOR PAL)	
R27	1-214-148-00	RES, METAL 4700 1% 1/4W	1-214-139-00	RES, METAL 2K 1% 1/4W

CT-29 BOARD

	UP TO #11699 (BVT-800PS, FOR PAL) **UP TO #70299** (BVT-800PS, FOR SECAM)		**#11701 & UP** (BVT-800PS, FOR PAL) **#70301 & UP** (BVT-800PS, FOR SECAM)	
C203	1-131-356-00	CAP, TANT 3.3 10% 25V	1-123-382-00	CAP, ELECT 3.3 20% 100V
C202	1-131-359-00	CAP, TANT 10 10% 25V	1-123-356-00	CAP, ELECT 10 20% 25V
C205	1-131-367-00	CAP, TANT 22 10% 20V	1-123-330-00	CAP, ELECT 22 20% 25V
R212	1-214-084-00	RES, METAL 10 1/4W 1%	1-247-083-00	RES, CARBON 10 1/4W 5%
R219	1-214-123-00	RES, METAL 430 1/4W 1%	1-247-122-00	RES, CARBON 430 1/4W 5%
R200, 220, 222	1-214-132-00	RES, METAL 1K 1/4W 1%	1-247-131-00	RES, CARBON 1K 1/4W 5%
R201, 208, 211	1-214-142-00	RES, METAL 2.7K 1/4W 1%	1-247-141-00	RES, CARBON 2.7K 1/4W 5%
R207	1-214-148-00	RES, METAL 4.7K 1/4W 1%	1-247-147-00	RES, CARBON 4.7K 1/4W 5%
R221	1-214-153-00	RES, METAL 7.5K 1/4W 1%	1-247-152-00	RES, CARBON 7.5K 1/4W 5%
R206	1-214-155-00	RES, METAL 9.1K 1/4W 1%	1-247-154-00	RES, CARBON 9.1K 1/4W 5%
R205	1-214-158-00	RES, METAL 12K 1/4W 1%	1-247-157-00	RES, CARBON 12K 1/4W 5%
R213, 216	1-214-160-00	RES, METAL 15K 1/4W 1%	1-247-159-00	RES, CARBON 15K 1/4W 5%
R203, 204, 214, 215, 217, 218	1-214-165-00	RES, METAL 24K 1/4W 1%	1-247-164-00	RES, CARBON 24K 1/4W 5%
R202	1-214-166-00	RES, METAL 27K 1/4W 1%	1-247-165-00	RES, CARBON 27K 1/4W 5%

PR-40 BOARD

	UP TO #11899 (BVT-800PS, FOR PAL) **UP TO #70299** (BVT-800PS, FOR SECAM)		**#11901 & UP** (BVT-800PS, FOR PAL) **#70301 & UP** (BVT-800PS, FOR SECAM)	
IC132	8-759-900-04	IC SN74LS04N, TTL	8-759-910-04	IC SN74S04N, TTL

FRAME

	UP TO #11999 (BVT-800PS, FOR PAL) **UP TO #70399** (BVT-800PS, FOR SECAM)		**#12001 & UP** (BVT-800PS, FOR PAL) **#70401 & UP** (BVT-800PS, FOR SECAM)	
R2	NOT IN USE		1-247-825-00	RES, CARBON 560 5% 1/6W

UP TO #12199 (BVT-800PS, FOR PAL)
UP TO #70399 (BVT-800PS, FOR SECAM)

#12201 & UP (BVT-800PS, FOR PAL)
#70401 & UP (BVT-800PS, FOR SECAM)

POWER SUPPLY ASSY

4-2	4-823-115-00	SPRING, COMPRESSION	3-303-890-01	SPRING, COMPRESSION

REAR PANEL ASSY

4-2	4-823-115-00	SPRING, COMPRESSION	3-303-890-01	SPRING, COMPRESSION

UP TO #12599 (BVT-800PS, FOR PAL)
UP TO #70399 (BVT-800PS, FOR SECAM)

#12601 & UP (BVT-800PS, FOR PAL)
#70401 & UP (BVT-800PS, FOR SECAM)

PW-91A BOARD

R5	1-211-673-00	RES, CARBON 30K 5% 1/2W	1-247-765-00	RES, CARBON 33K 5% 1/2W

UP TO #12799 (BVT-800PS, FOR PAL)
UP TO #70399 (BVT-800PS, FOR SECAM)

#12801 & UP (BVT-800PS, FOR PAL)
#70401 & UP (BVT-800PS, FOR SECAM)

PW-91A BOARD

5 PCS	7-686-527-01	SCREW, PSW 3X6	DELETED
2 PCS	7-686-528-01	SCREW, PSW 3X8	DELETED
2 PCS	7-686-529-01	SCREW, PSW 3X10	7 PCS

UP TO #12799 (BVT-800PS, FOR PAL)
UP TO #70599 (BVT-800PS, FOR SECAM)

#12801 & UP (BVT-800PS, FOR PAL)
#70601 & UP (BVT-800PS, FOR SECAM)

SG-68 BOARD

R341	1-214-154-00	RES, METAL 8.2K 1% 1/4W	1-214-153-00	RES, METAL 7.5K 1% 1/4W

PR-40 BOARD

R593	1-214-138-00	RES, METAL 1.8K 1% 1/4W	1-214-136-00	RES, METAL 1.5K 1% 1/4W

UP TO #12999 (BVT-800PS, FOR PAL)
UP TO #70599 (BVT-800PS, FOR SECAM)

#13001 & UP (BVT-800PS, FOR PAL)
#70601 & UP (BVT-800PS, FOR SECAM)

FRAME

SW1	1-516-379-00	SWITCH, ROCKER	1-570-117-11	SWITCH, SEESAW
CB1	1-532-534-00	BREAKER, CIRCUIT, AC250V 1.6A	1-532-534-31	BREAKER, CIRCUIT, AC250V 1.6A

PW-91A BOARD

Q1	8-729-133-53	TRANSISTOR 2SC2335	8-729-204-88	TRANSISTOR 2SC3310

CHANGED PARTS

	UP TO #70610 (BVT-800PS, FOR SECAM)		#70611 & UP (BVT-800PS, FOR SECAM)	
SG-68 BOARD				
R341	1-214-154-00	RES, METAL 8.2K 1% 1/4W	1-214-153-00	RES, METAL 7.5K 1% 1/4W

	UP TO #13100 (BVT-800PS, FOR PAL) UP TO #70610 (BVT-800PS, FOR SECAM)		#13101 & UP (BVT-800PS, FOR PAL) #70611 & UP (BVT-800PS, FOR SECAM)	
SG-67 BOARD				
S4	1-554-012-00	SWITCH, DIP, 8-CKT	1-570-281-11	SWITCH, DIP
PR-40 BOARD				
S6	1-554-012-00	SWITCH, DP, 8-CKT	1-570-281-11	SWITCH, DIP

	UP TO #13600 (BVT-800PS, FOR PAL) UP TO #70700 (BVT-800PS, FOR SECAM)		#13601 & UP (BVT-800PS, FOR PAL) #70701 & UP (BVT-800PS, FOR SECAM)	
CHASSIS ASSY				
2-4	2-252-630-00	PLATE, ORNAMENTAL, HANDLE	2-252-630-02	PLATE, ORNAMENTAL, HANDLE

	UP TO #13699 (BVT-800PS, FOR PAL) UP TO #70799 (BVT-800PS, FOR SECAM)		#13701 & UP (BVT-800PS, FOR PAL) #70801 & UP (BVT-800PS, FOR SECAM)	
PR-40 BOARD				
IC529, 530	8-759-907-93	IC μA796HC-B	8-759-000-05	IC MC1496G; MOTOROLA
SG-67 BOARD				
IC1L, 1P, 1W, 2H, 2R, 2U, 2Z, 3K, 4K, 4W, 5G, 5K	8-759-907-93	IC μA796HC-B	8-759-000-05	IC MC1496G; MOTOROLA
SG-68 BOARD				
IC1E, 1R, 2P, 3E, 5C	8-759-907-93	IC μA796HC-B	8-759-000-05	IC MC1496G; MOTOROLA
IV-4A BOARD				
IC3	8-759-907-93	IC μA796HC-B	8-759-000-05	IC MC1496G; MOTOROLA

	UP TO #13699 (BVT-800PS, FOR PAL) UP TO #70899 (BVT-800PS, FOR SECAM)		#13701 & UP (BVT-800PS, FOR PAL) #70901 & UP (BVT-800PS, FOR SECAM)	

IV-4A BOARD

R87	1-214-139-00	RES, METAL 2K 1% 1/4W	1-214-132-00	RES, METAL 1K 1% 1/4W
R89	1-214-132-00	RES, METAL 1K 1% 1/4W	1-214-139-00	RES, METAL 2K 1% 1/4W
R91	1-214-180-00	RES, METAL 100K 1% 1/4W	1-247-887-00	RES, CARBON 220K 5% 1/6W
C38	1-131-347-00	CAP, TANT 1 10% 35V	1-131-359-00	CAP, TANT 10 10% 25V
D14, 15	8-719-815-55	DIODE 1S1555	DELETED	
D16, 17	8-719-815-55	DIODE 1S1555	8-719-104-10	DIODE 1SS99

	UP TO #14099 (BVT-800PS, FOR PAL) UP TO #71099 (BVT-800PS, FOR SECAM)		#14101 & UP (BVT-800PS, FOR PAL) #71101 & UP (BVT-800PS, FOR SECAM)	

PR-40 BOARD

R238	1-214-149-00	RES, METAL 5.1K 1% 1/4W	1-214-132-00	RES, METAL 1K 1% 1/4W
R242	1-214-149-00	RES, METAL 5.1K 1% 1/4W	1-214-151-00	RES, METAL 6.2K 1% 1/4W

	UP TO #14299 (BVT-800PS, FOR PAL) UP TO #71099 (BVT-800PS, FOR SECAM)		#14301 & UP (BVT-800PS, FOR PAL) #71201 & UP (BVT-800PS, FOR SECAM)	

CK-11 BOARD

R36	1-214-159-00	RES, METAL 13K 1% 1/4W	1-214-162-00	RES, METAL 18K 1% 1/4W